VOL. XLIII. No.9 SEPTEMBER 1958

MECCANO MAGAZINE

FORGING A LOCOMOTIVE COUPLING ROD

15c

DINKY TOYS

No. 716
Westland Sikorsky Helicopter
Length overall 3½ in. **2/6**

No. 735
Gloster Javelin Delta Wing Fighter
Wing Span 3½ in. **2/6**

No. 131
Cadillac Eldorado Tourer
Length 4 11/16 in. **4/3**

No. 106
Austin Atlantic Convertible
Length 3¾ in. **3/3**

No. 455
Trojan 15-cwt. Van
'BROOKE BOND TEA'
Length 3 3/8 in. **2/6**

No. 443
Tanker 'NATIONAL BENZOLE'
Length 4⅜ in. **2/11**

No. 670
Armoured Car
Length 2⅞ in. **2/11**

No. 621
3-ton Army Wagon
Length 4½ in. **4/11**

No. 164
Vauxhall Cresta Saloon
Length 3 13/16 in. **2/11**

No. 190
Caravan
Length 4¾ in. (including towbar) **3/9**

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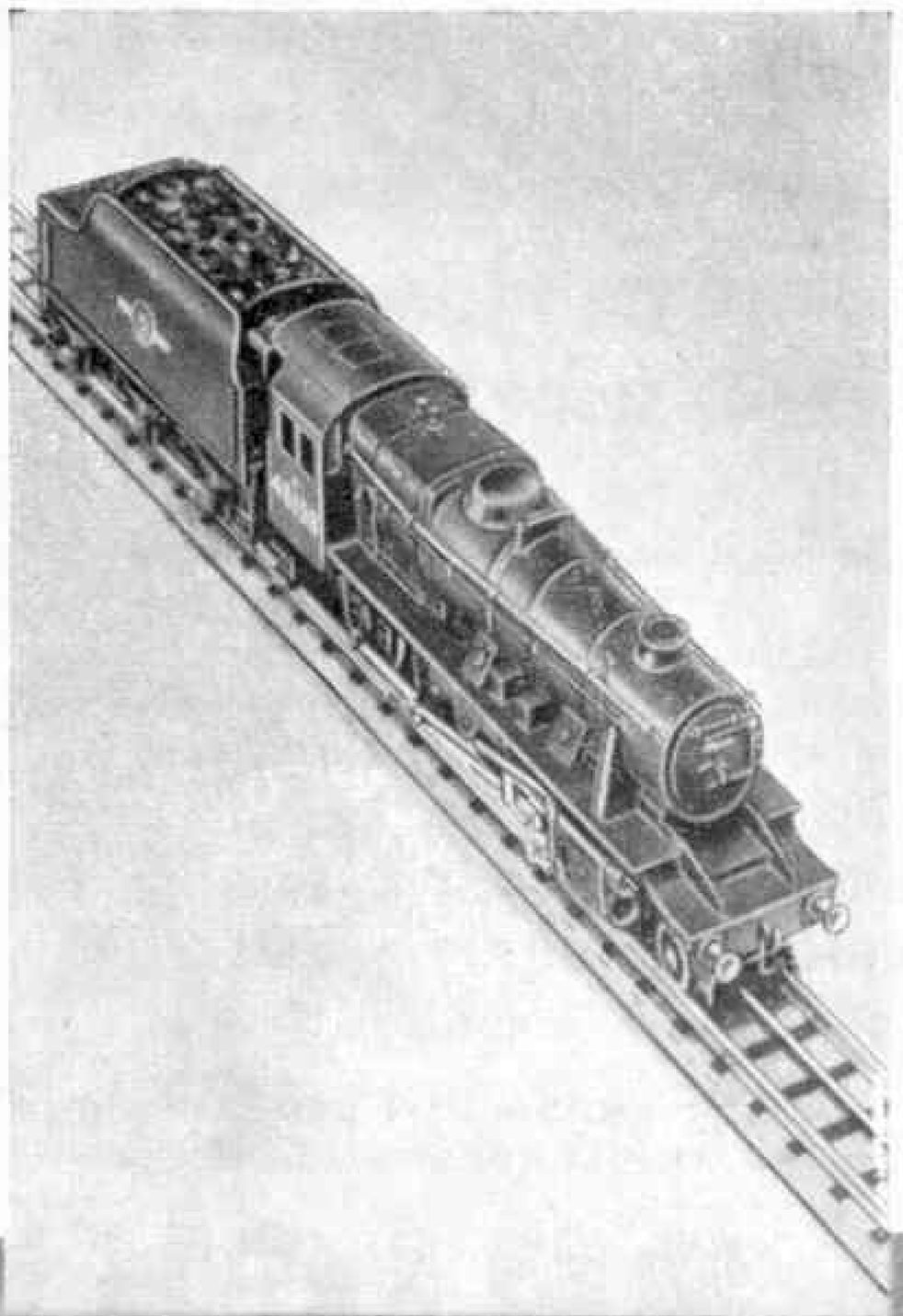
A New SCALE-DETAILED 2-8-0 FREIGHT LOCOMOTIVE

for your Hornby-Dublo Railway



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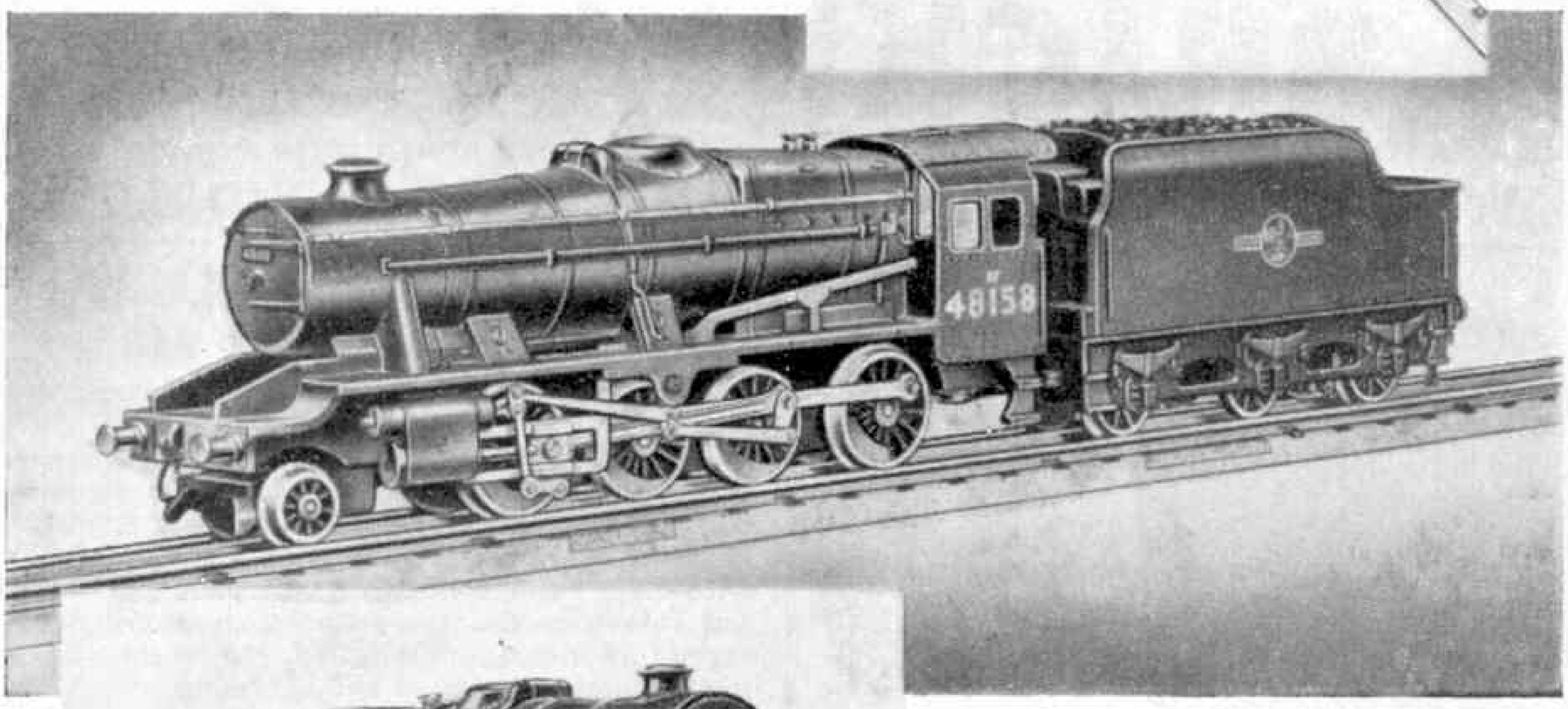

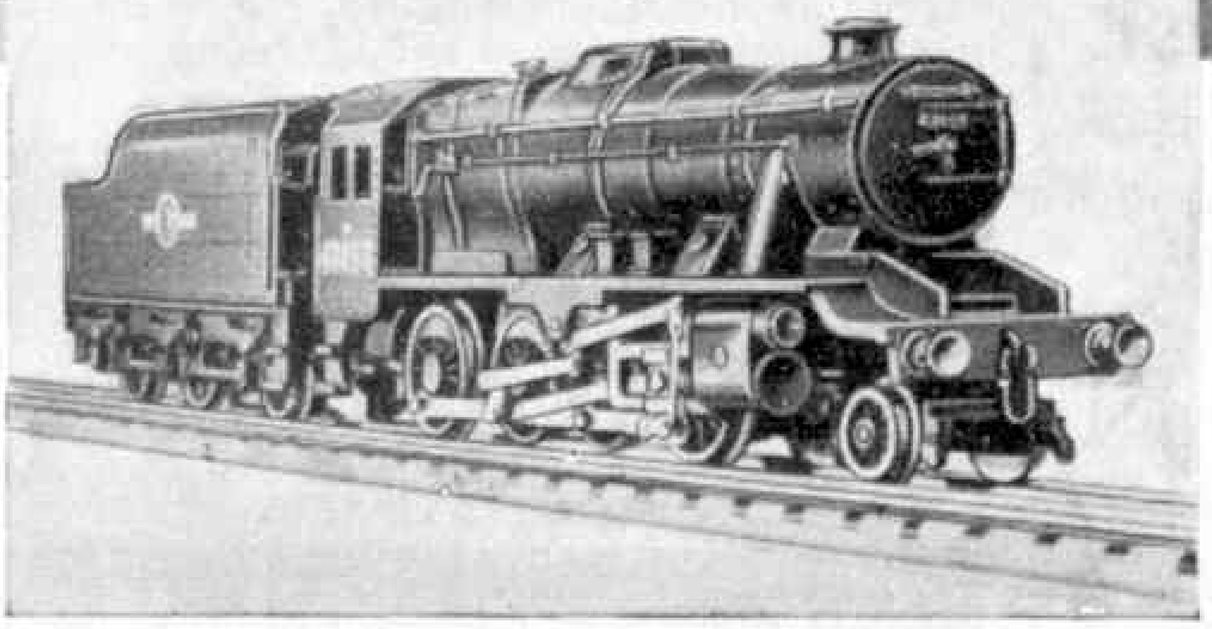

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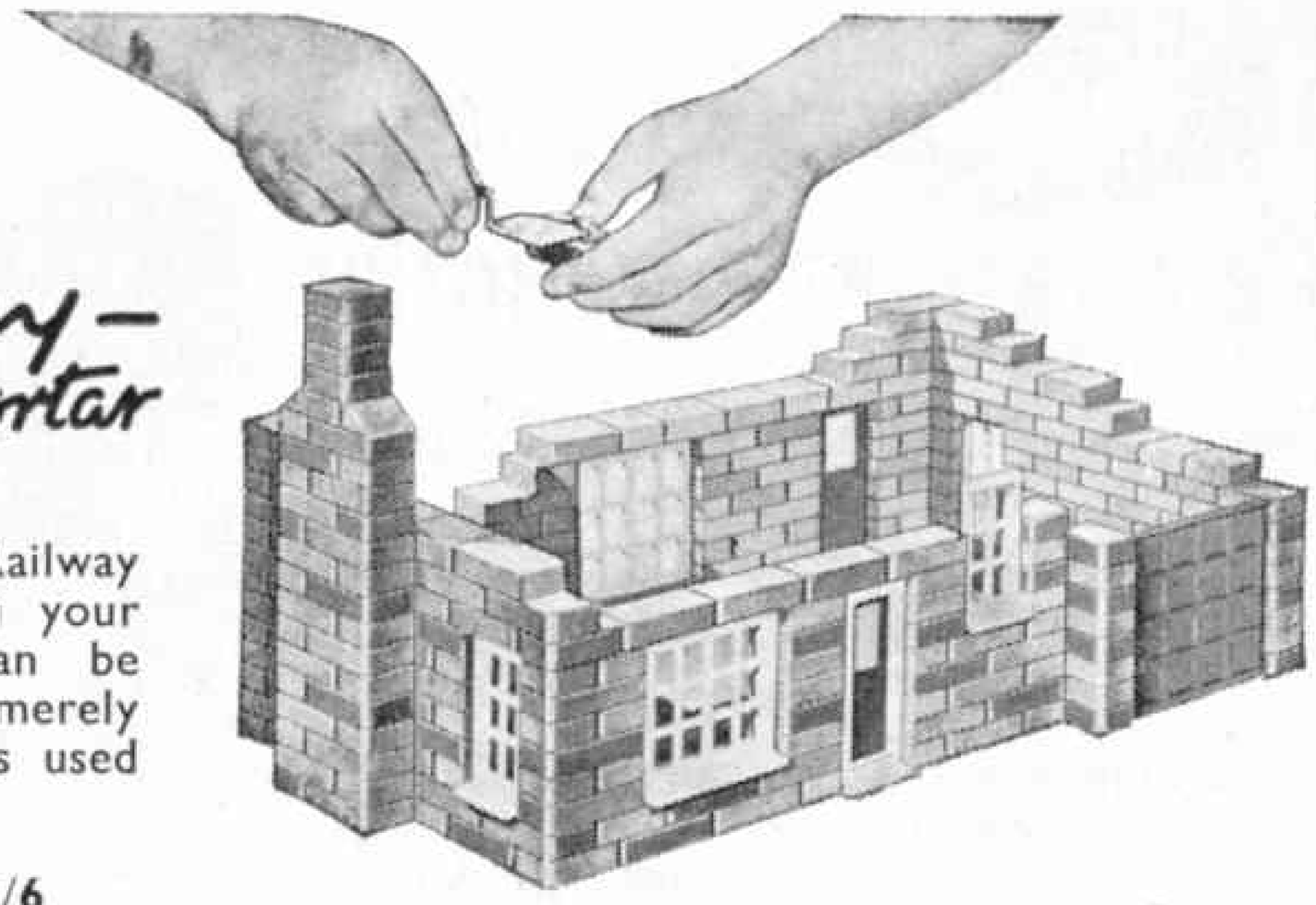

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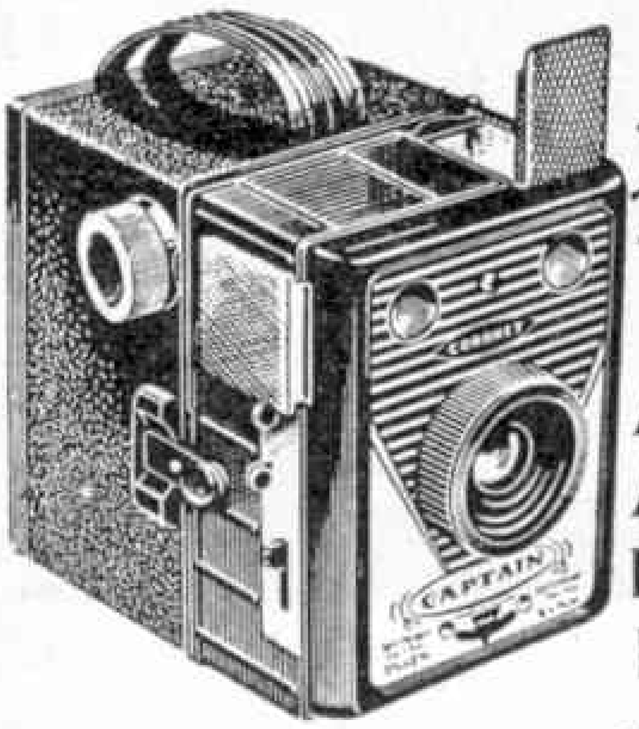

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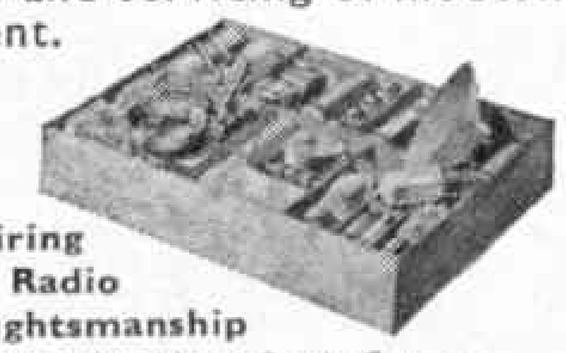

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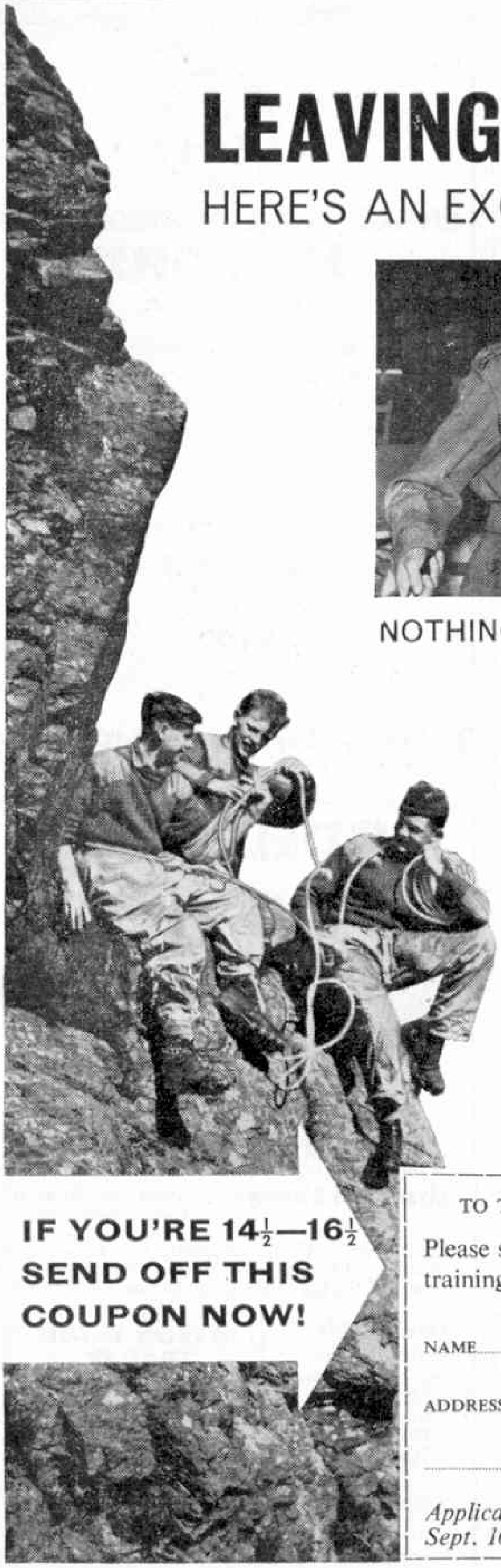

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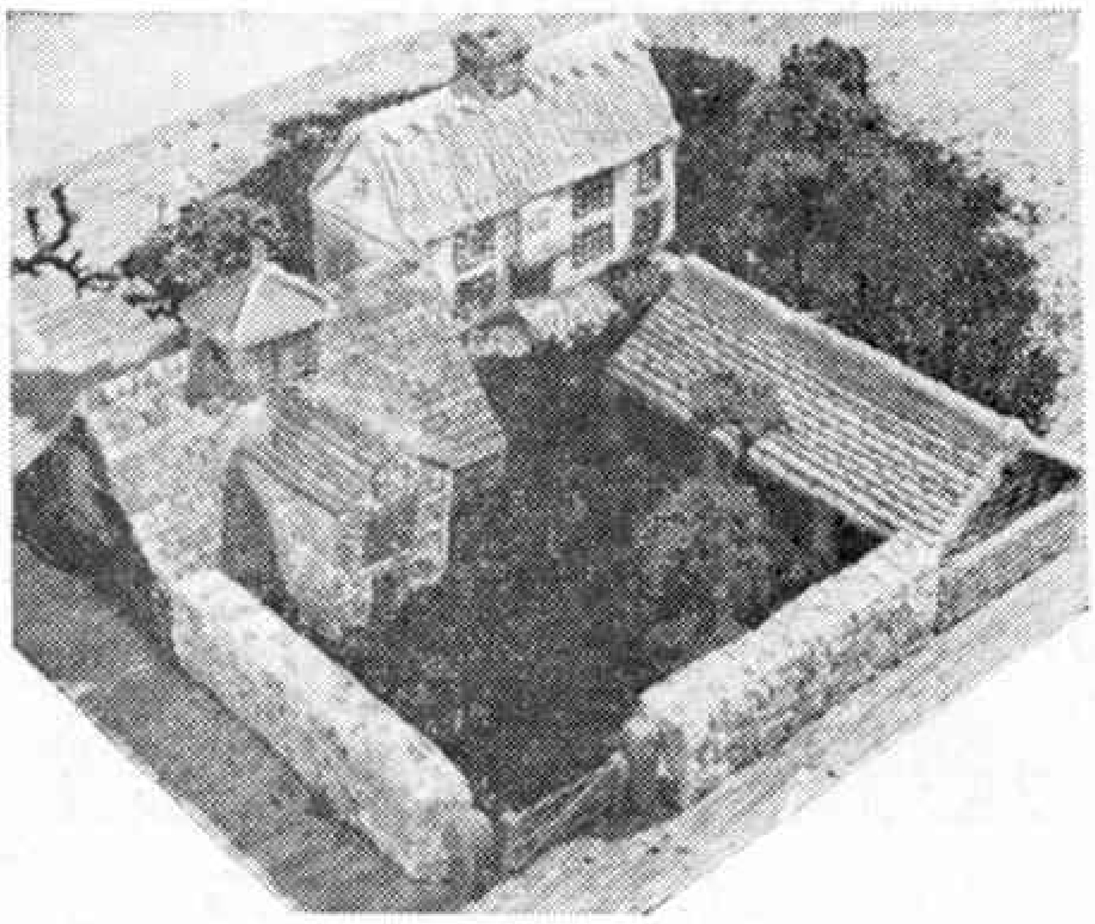

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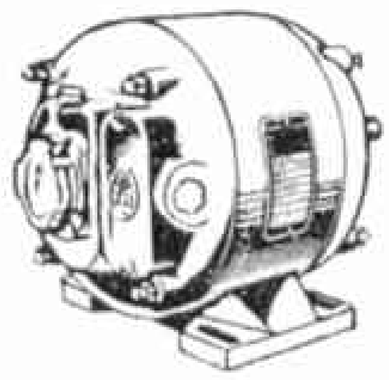

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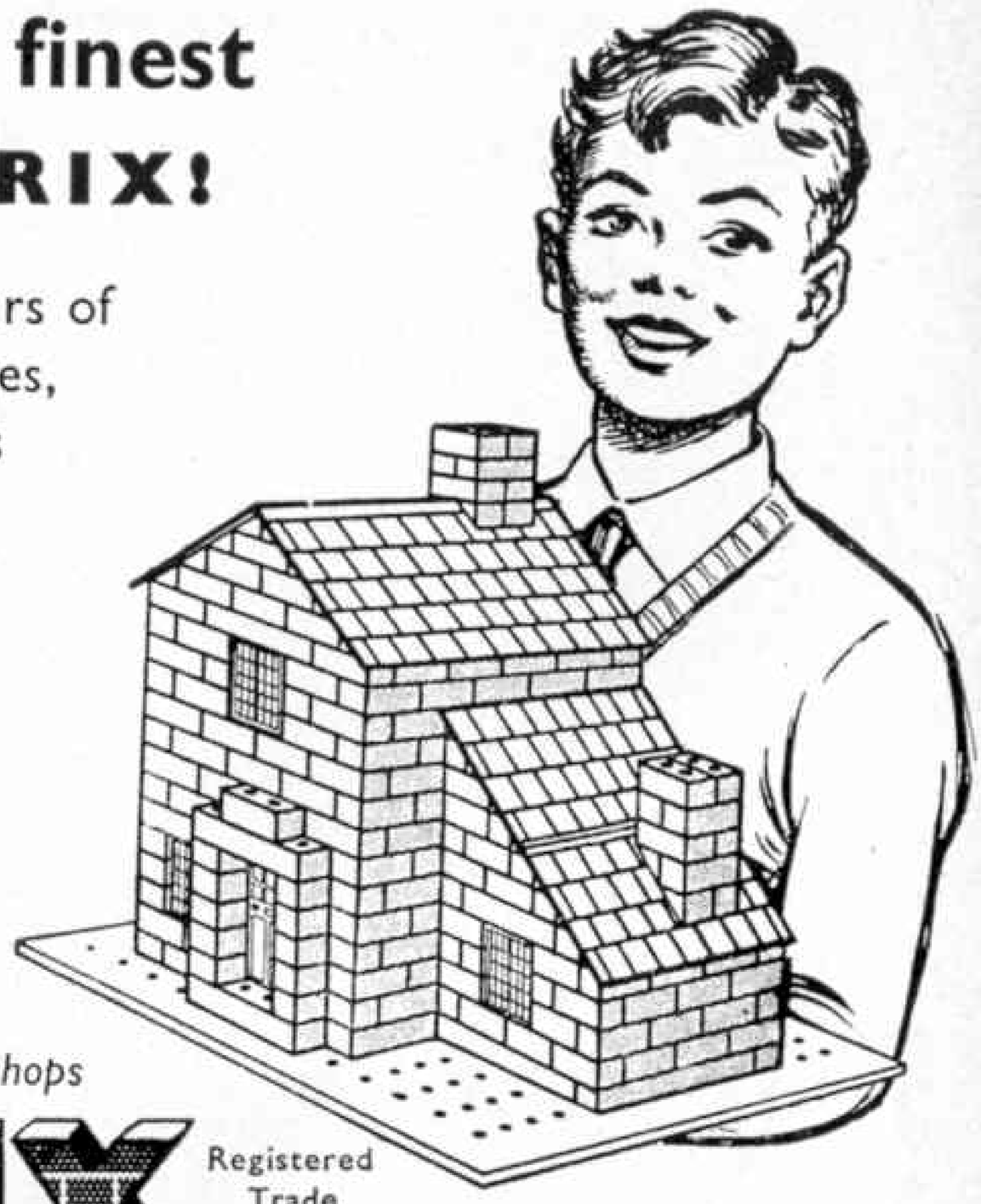

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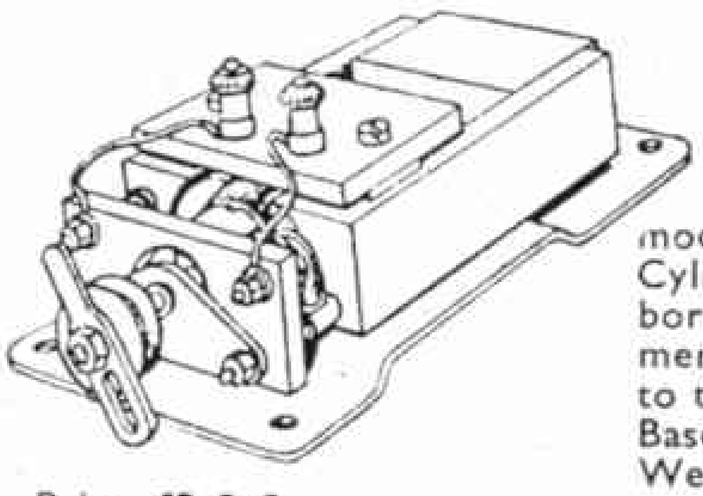

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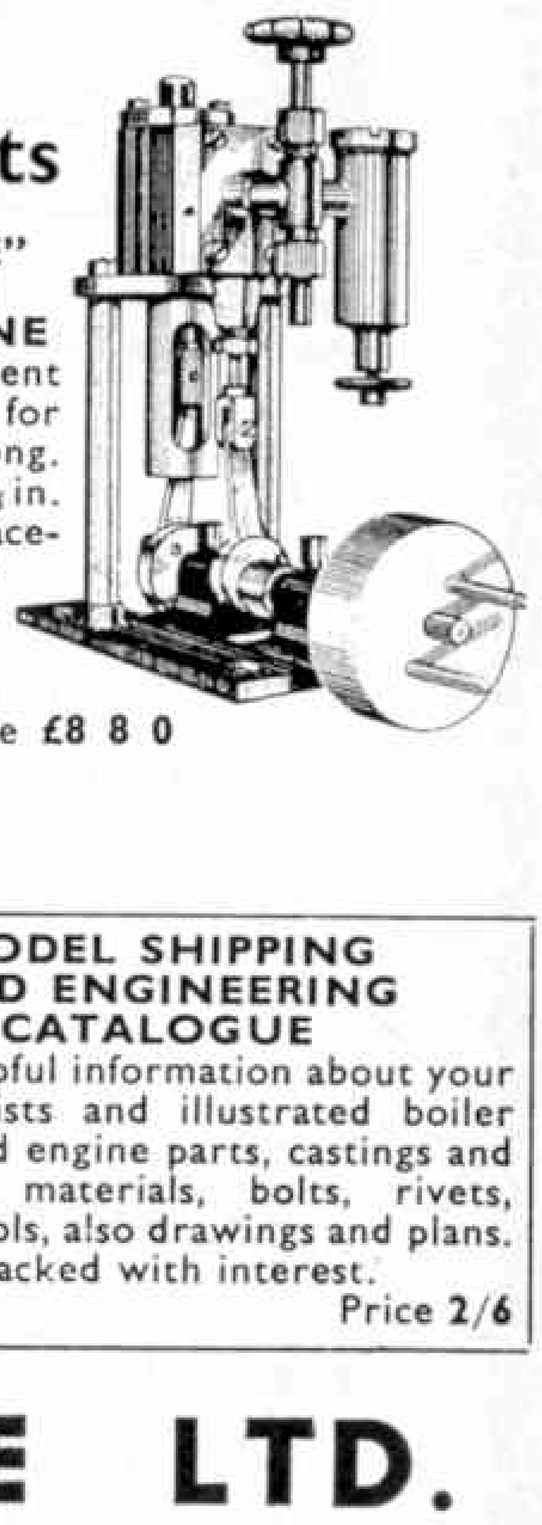

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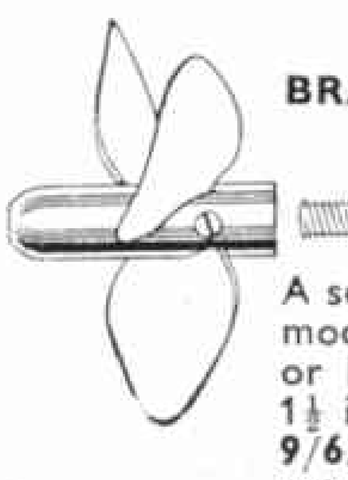

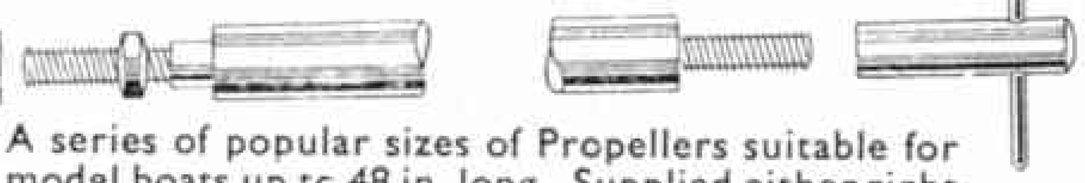

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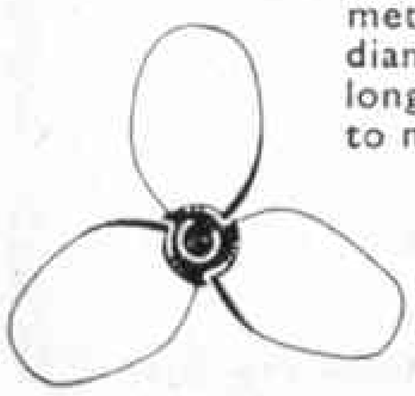

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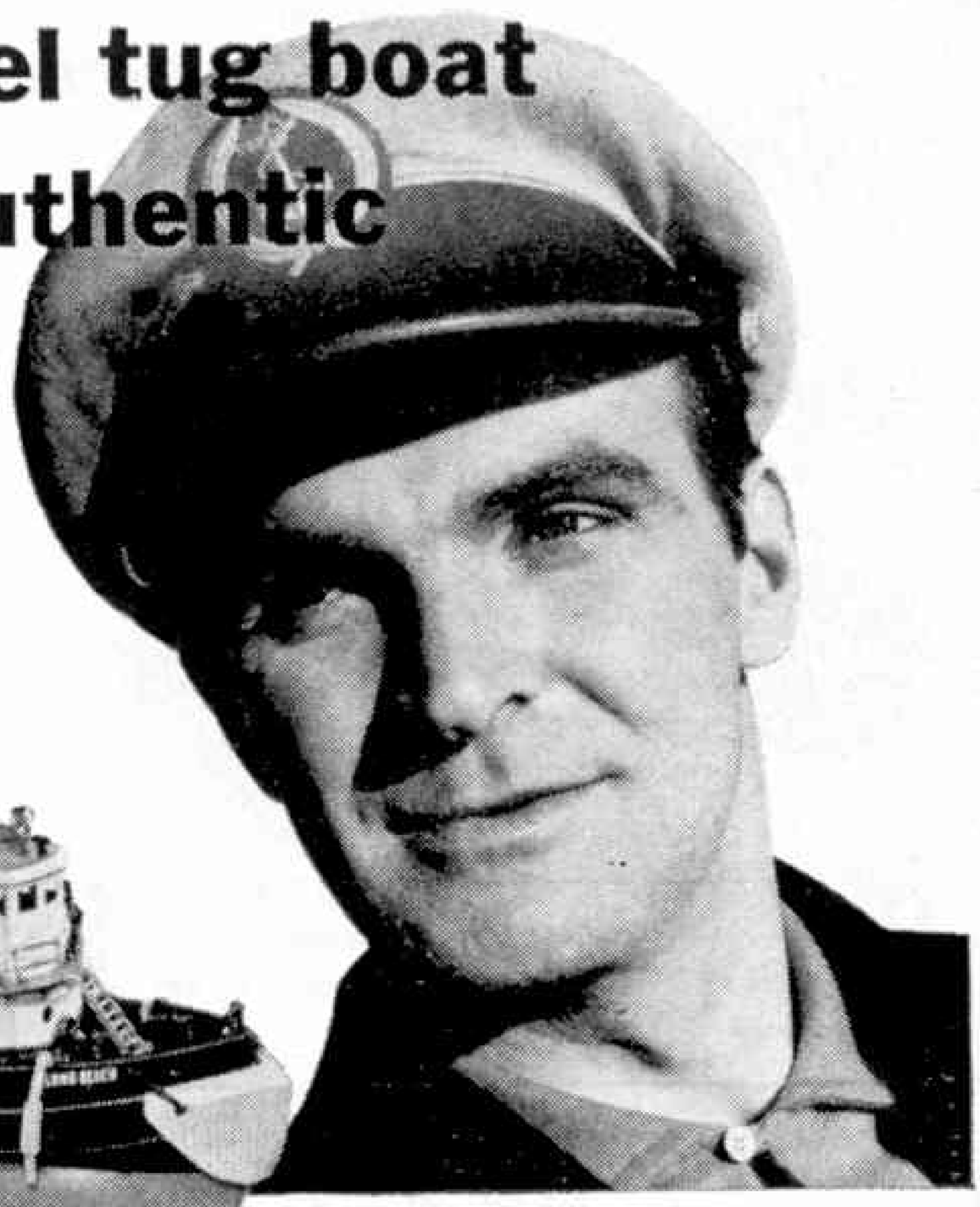

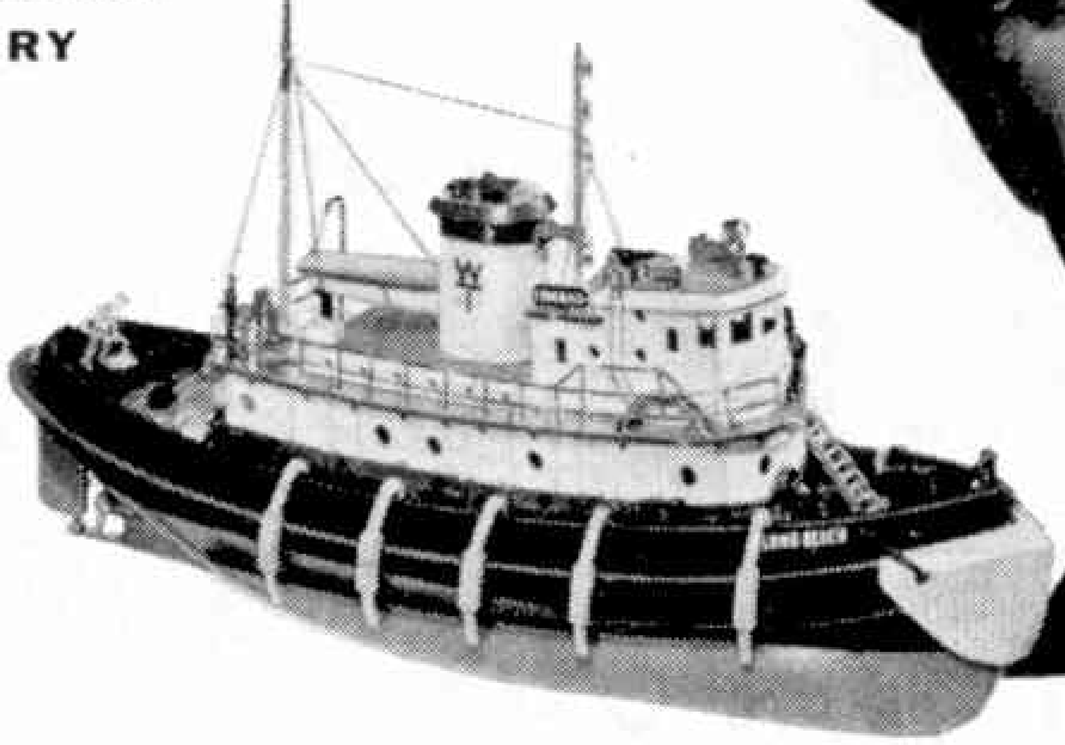

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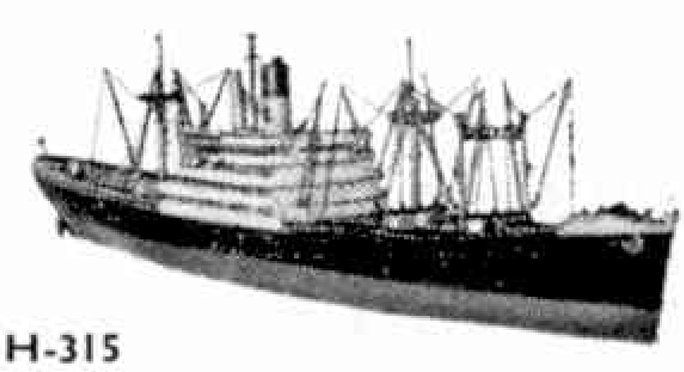
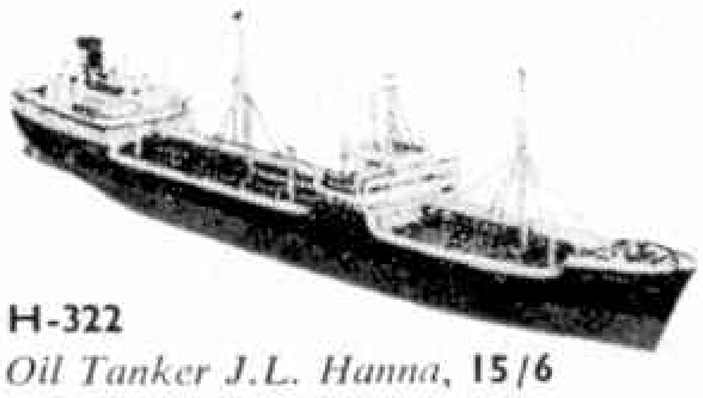


H-315
Matson Freighter Hawaiian Pilot, **15/6**



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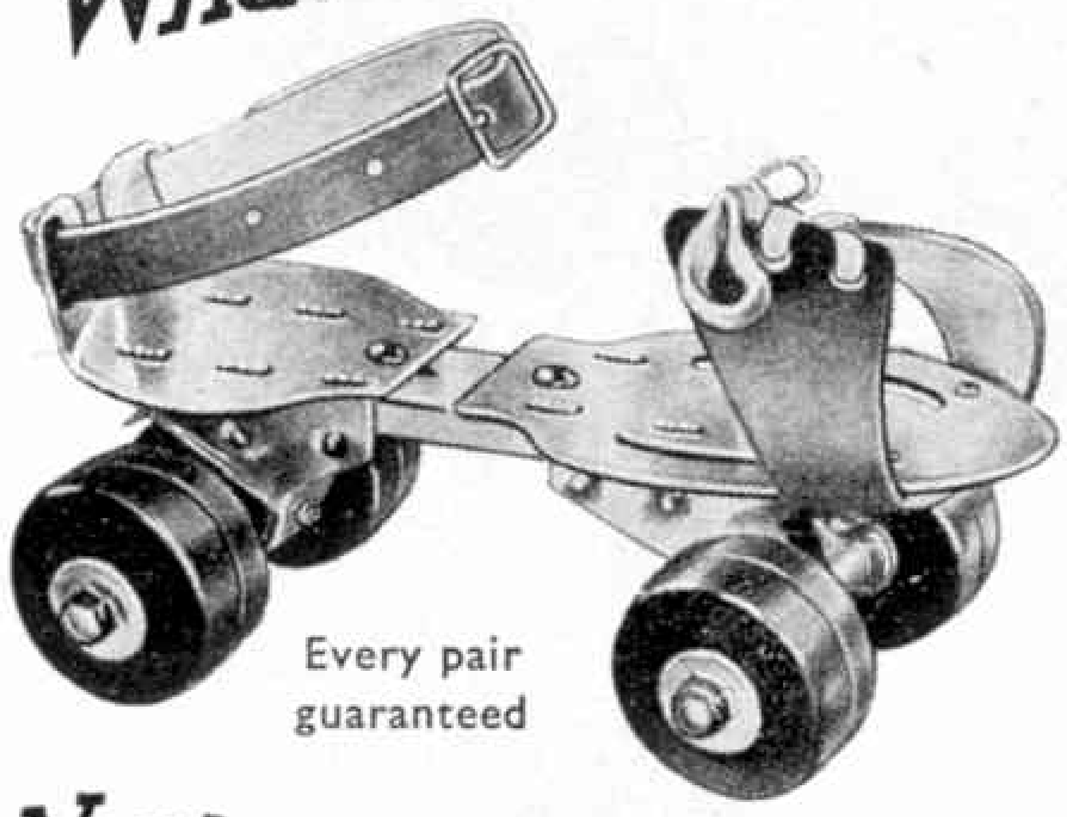

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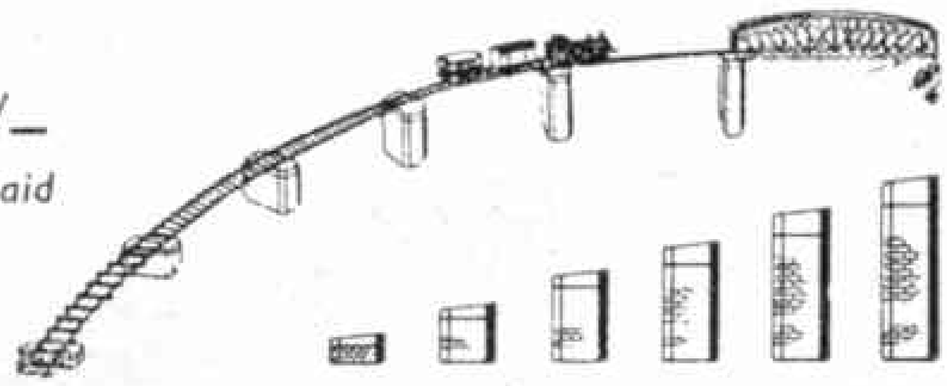

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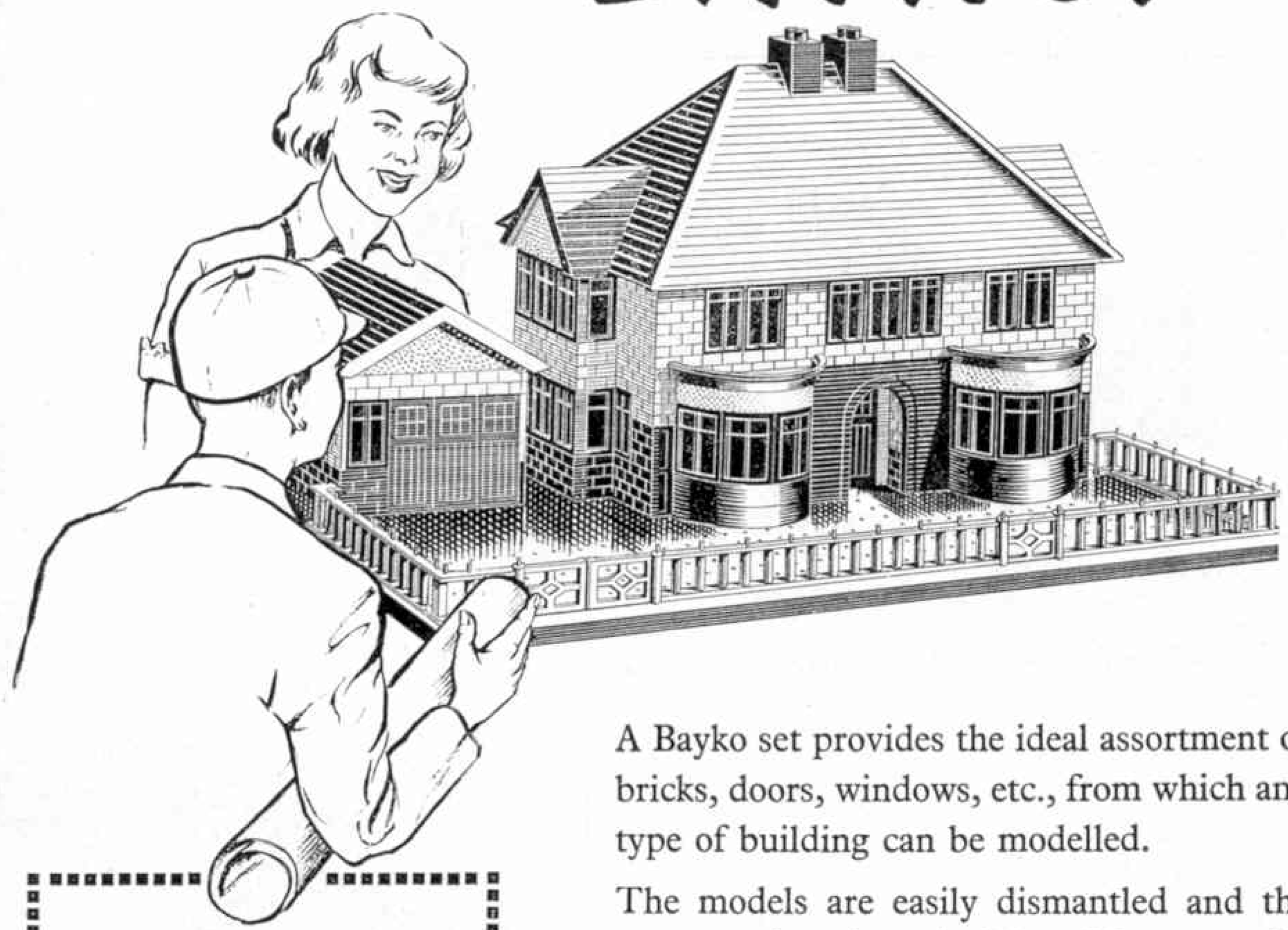

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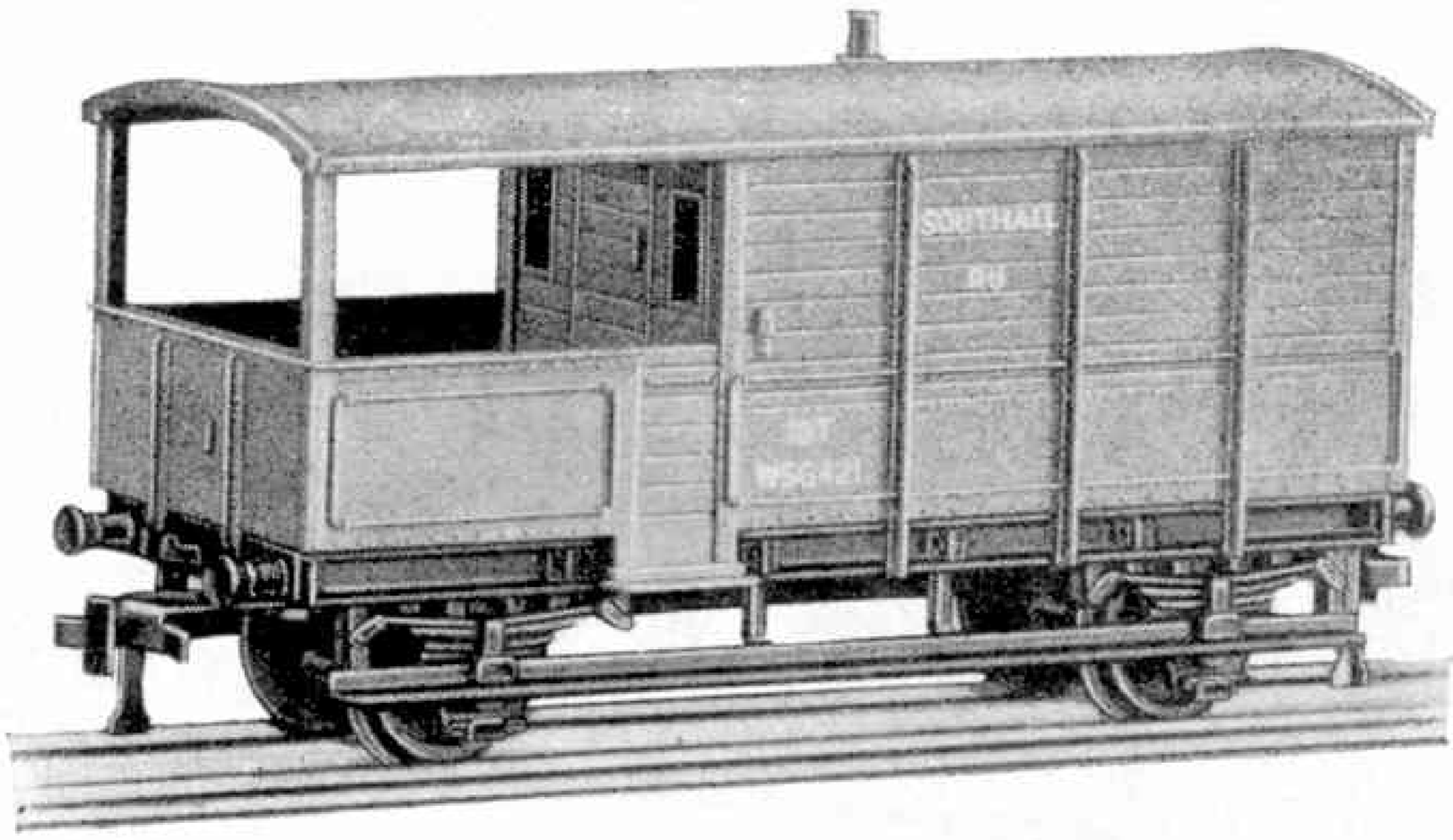
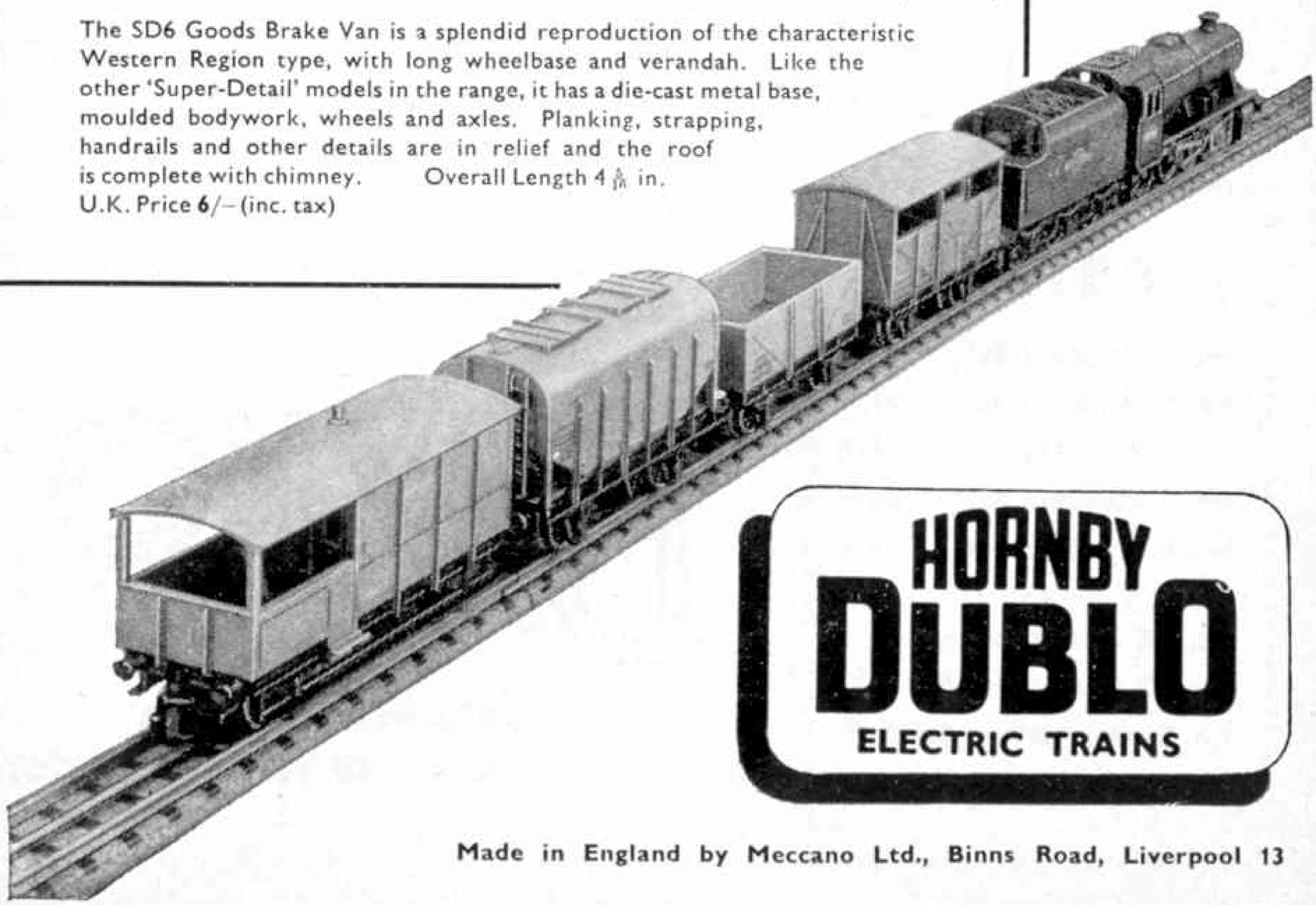


HORNBY-DUBLO SD6 GOODS BRAKE VAN B.R. (W.R.)

The SD6 Goods Brake Van is a splendid reproduction of the characteristic Western Region type, with long wheelbase and verandah. Like the other 'Super-Detail' models in the range, it has a die-cast metal base, moulded bodywork, wheels and axles. Planking, strapping, handrails and other details are in relief and the roof is complete with chimney. Overall Length 4 $\frac{7}{16}$ in.
U.K. Price **6**/– (inc. tax)



HORNBY DUBLO ELECTRIC TRAINS

Made in England by Meccano Ltd., Binns Road, Liverpool 13

Next Month: "TUNNEL ATHLETICS"

MECCANO MAGAZINE

Editorial Office:
Binns Road
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EDITOR : FRANK RILEY, B.Sc.

Vol. XLIII
No. 9
September 1958

A Learning Machine

When electronic calculating machines first came into prominence they seemed so miraculous that very soon we began to ask if they were perhaps even capable of thinking. Now a new kind of electronic computer that has been designed and built in the National Physical Laboratory in Teddington promises to raise all these questions again. It does something more than carry out complex calculations, for it makes decisions based on its own experience. In other words, it learns for itself in much the same way as we learn, using an electronic memory.

A fine picture of "Sceptre" under sail. For the story of the contest for the America's Cup, in which this 12-metre yacht is the challenger in a series of races to be held this month, turn to page 422.

This memory seems to be really life-like. At any rate it resembles mine in that the knowledge stored in it dies away gradually and eventually disappears. I do not suppose that my memory is the only one that behaves in this way!

This machine is still being developed, and possibly it may do even more remarkable things in time. I am sure that you will all be glad to know something about it, so next month I will include an article describing the machine, with pictures of it at work. These will reveal the interesting fact that essential parts of it are made of Meccano. Truly there seems no end to its uses.

There will be other exciting things in next month's issue, which you must not miss. One is the story of the planning of a rocket that would actually land on the Moon, a scheme that was worked out, before space rockets and Sputniks became common, by a group of British scientists who have been interested in these problems for years. Coming down to Earth, there will also be an account of the building of the new motorway from St. Albans northward now being constructed, of the latest development at Niagara Falls—a new system of flood lighting in colour to entrance visitors to this famous showplace—and, as usual, many other good things as well.

The Editor

Ashford Activities

My Visit to a Famous Locomotive Works

By R. A. H. Weight

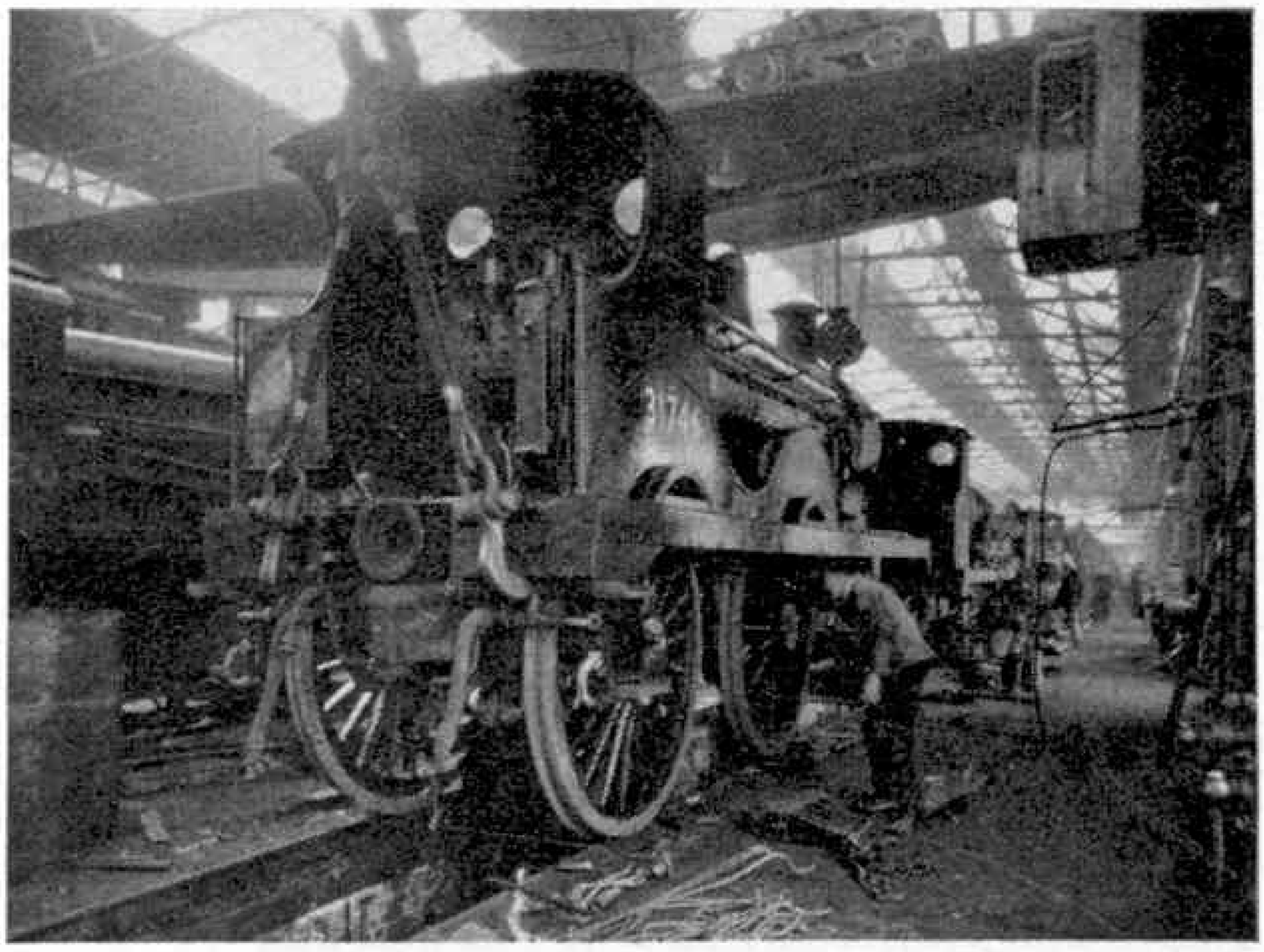
THE Ashford Locomotive Works of the Southern Region of British Railways, with their tall chimney and clock tower, form a prominent stretch of buildings as viewed from the main London-Folkestone-Dover line east of the triple junction station and market town of Ashford. They are about 56 miles from London in East Kent, less than 20 miles from the sea and close to downlands, orchards and hopfields. The associated Wagon Works are close to the Hastings-Ashford tracks at the west end.

A then-young South Eastern Railway established the Works in 1847 for locomotive and rolling stock construction and maintenance. Extension and modernisation have taken place since, though parts of the original solid structures are still in use. After the formation of the Southern Railway group in 1923 much of the passenger carriage work was transferred to Lancing, Sussex, or to Eastleigh. The important locomotive shops have been continuously in action ever since, however. They cover an area of 26½ acres, and are not the most extensive of their kind, though of quite considerable size and capacity.

During my most recent visit to the Works I was able to witness in the Forge—one of the older buildings down at the Folkestone end — the whole process of forging front coupling rods to be fitted between the first and second pairs of driving wheels as replacements on 2–6–0 engines repaired there. The impressive cover of this issue shows this work in progress and will help you to follow the ensuing description of how the coupling rods are made.

Tough steel is received in the Forge in lengths or billets weighing 17 cwt., and from each of these three coupling rods, each 7 ft. 6 in. long, are produced. After the metal has been made white hot in a furnace, and has been marked off to required measurements from a template, it is swung over by means of a hand operated crane or purchase, and placed on the forging block. There it is turned and moved as required under the deft control and direction of the Chargeman, while the head of the 2-ton steam hammer, hand controlled from the left by one of the team of four men, crashes down repeatedly to trim the rod into the required size and shape.

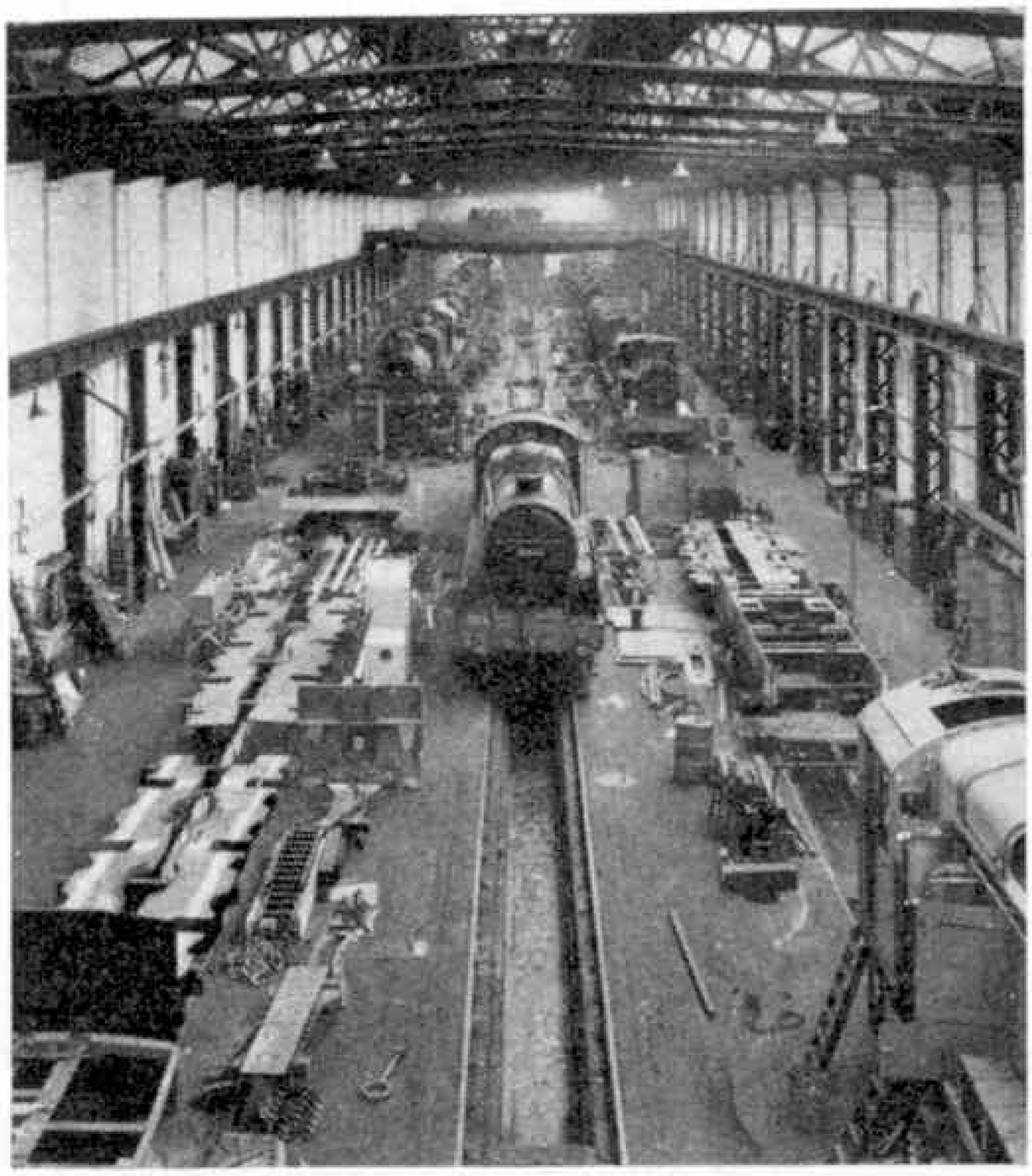
By putting a wedge or cutter beneath the hammer, portions of steel can be cut off in a matter of moments, when sparks fly and fragments scatter, to be swept up as soon as they are somewhat cooled. A severed portion of each steel rod is marked for identification and passed to the works laboratory for X-Ray testing. This is necessary to make sure there are no flaws or inferior constituents in the coupling rod before it is fitted to the locomotive and



A former South Eastern and Chatham D Class locomotive being lifted by an overhead crane and re-wheeled after overhaul at the Ashford Works of the Southern Region. Our illustrations, and the photograph on which our cover this month is based, we owe to the courtesy of British Railways, Southern Region.

subjected to the severe strains of running at high or low speeds, over straight or curved tracks and so on. Before it reaches this stage it will have been smoothed off, machined to most precise measurements and shaped to fit wheel and motion parts, work that is carried out in another Shop.

Forgeman Bosley, the Chargeman, readily distinguished on the cover by his wearing a cap, knows by eye from long experience just when and where to direct, increase, start or stop the power of the forging hammer. The quartette of men under his leadership carries out many such hot and varied jobs at intervals with precision.



A scene in Ashford Works, where locomotive construction and maintenance work have been carried on for many years.

Following the planning, organising, material ordering and drawing office work, craftsmanship, allied to the power and versatility of modern machines as well as electric, electro-pneumatic or similar equipment, is the keynote of speedy and reliable output in a big Plant such as this. The large Erecting, Boiler and Fitting Shops are always a source of wonder and attraction to visitors, especially those who are locomotive enthusiasts. In them I saw many locomotives partly dismantled and in process of overhaul and reconditioning. Among these were *Whitgift* and *Leatherhead* of the Schools class; Nos. 31754, 31757, 31787 of the L1 4–4–0 type; W class 2–6–4T No. 31917; 2–6–0s numbered 31807, 31831, 31861; and Q1 0–6–0 No. 33002.

As necessary locomotives are stripped and taken to pieces, the parts are cleaned and then sent to various sections for repair or renewal if required. A progressive system of re-erection is adopted in accordance with a timetable, gangs of men dealing with certain sections of work, then handing on to others and themselves taking over fresh engines. There are powerful overhead electric travelling cranes to convey boilers, frames, partly set-up locomotives or other heavy parts, while portable apparatus is available on the floor for grinding, drilling, flame-cutting, machining and electric welding.

In the Machine Shops, locomotive parts and precision tools are made and there are many other sections. The main activity now is the repair of locomotives attached to the Eastern and Central Divisions of the S.R., including Schools class and all 2–6–0s. Important parts for those in hand at Brighton or Eastleigh Works continue to be made or manufactured at Ashford, however. Examples are new inside cylinder and steam-chest castings for Merchant Navy and West Country Pacifics rebuilt at Eastleigh, and tenders, and the main frames for many Southern or B.R. standard engines, large and small, have been prepared there.

In the past many sturdy express passenger, mixed traffic, goods and shunting steam locomotives have been constructed at Ashford, for the South Eastern, South Eastern and Chatham and Southern Railways successively, and on Government account during the last great war. Among those turned out during the past 30 years from Ashford and still in S.R. service are Moguls or 2–6–0s, with 5 ft. 6 in. driving wheels and 2 cylinders, now numbered 31400–14 and Nos. 31810–21/23–5; Nos. 31876–80, which have 3 cylinders; U type Nos. 31620–39, with 2 cylinders and 6 ft. wheels; and W class 2–6–4T 3-cylinder freight locomotives numbered 31916–25.

Now there has been a partial change to diesel work, and one of the last big new engines completed at Ashford was the British Railways main line diesel electric No. 10202, built to S.R. design, which in the most recent years has, with ex-S.R. Nos. 10201 and 10203, been operating on the London Midland Region.

Blowing up an Undersea Mountain

The Destruction of Ripple Rocks

By John Barras Walker

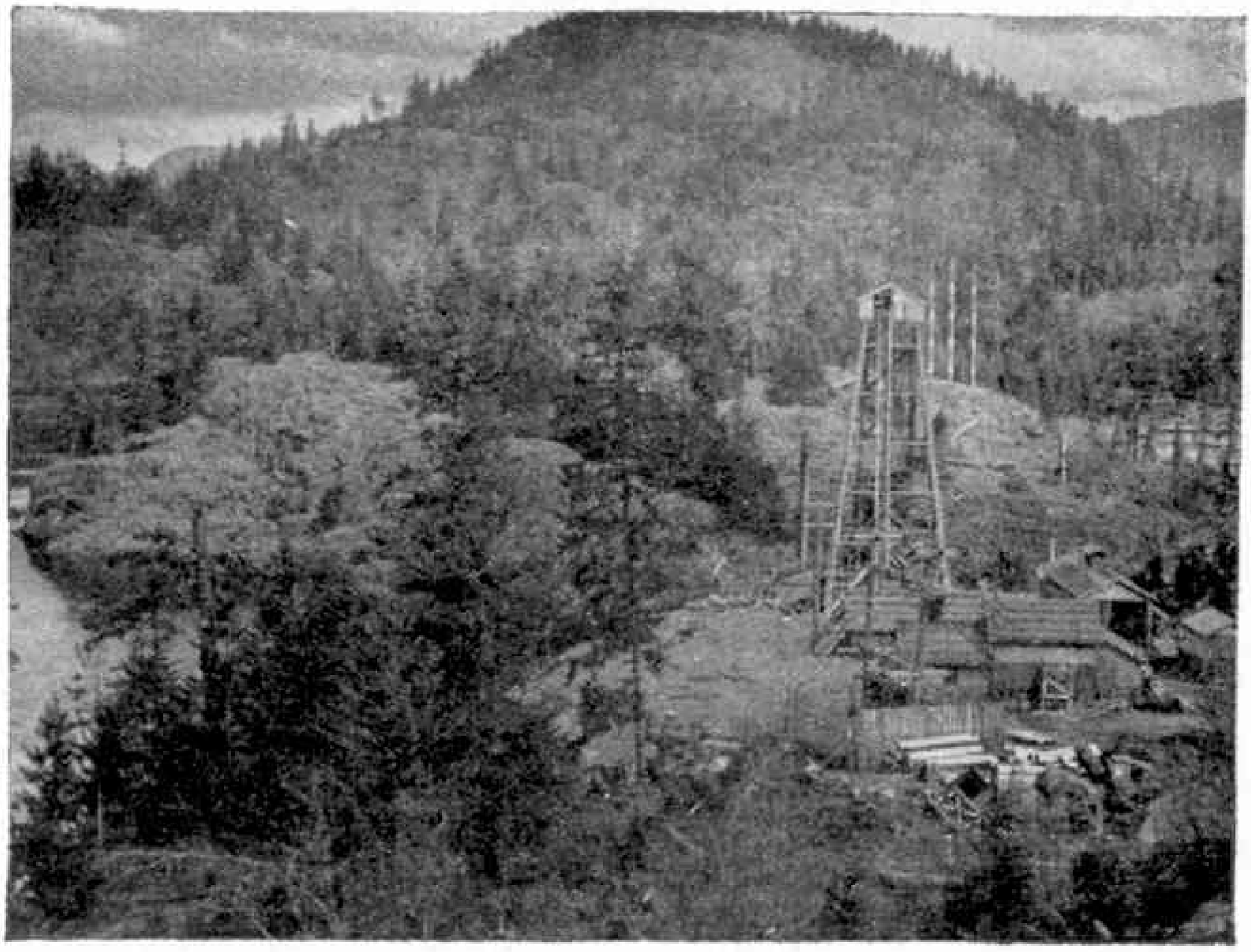
VANCOUVER Island lies off the coast of British Columbia like a 285-mile breakwater, with the waters between it and the mainland a busy shipping lane for liners and cargo ships, coasters and tramps, the Pacific Coast fishing fleets and long booms of logs slowly creeping to the mills behind their small tugs.

This Inside Passage, as it is called, has naturally been favoured by ships going north to Alaska, or returning south, in preference to the only alternative route through the open waters of the stormy North Pacific. But there was in it a serious hazard in the shape of an undersea mountain that rose over 400 feet above the sea bed about 110 miles north of Vancouver, with one of its two peaks only nine feet below the surface at low tide. This mountain poked toward the surface in Seymour Narrows, the narrowest part of the seaway, between Vancouver Island and Maude and Quadra Islands, at a point where the passage is little wider than a large river, only 650 yards from shore to shore.

Twice a day the tides rush into the Inside Passage from the Straits of Juan de Fuca to the south and Queen Charlotte Sound to the north. Compressed into Seymour Narrows through which they rush at 15 knots, they form eddies and whirlpools — themselves a serious hazard to ships—and just below the surface the two underwater peaks formed a long foaming ripple in the fast tides. Hence their name, Ripple Rocks. Since records were started with the loss of two United States gunboats in 1875, 120 vessels, 20 of them large ones, have been sunk by Ripple Rocks, and 114 lives have been lost.

Many have been the plans and suggestions to eliminate this danger. Between 1943 and 1945 two definite attempts were made to write an end to Ripple Rocks by anchoring barges above them, secured to the shore by strong cables, from which to lower explosive charges on to the rocks with the idea of gradually whittling them down. It proved impossible to anchor the barges in the strong tides. Cables snapped repeatedly, and with nine lives lost on the project and Ripple Rocks still rippling undisturbed, the attempts were abandoned.

Immediately after the war there were suggestions that the Royal Canadian Air Force, backed up with a good supply of war surplus block busters, might be the answer. The plan was ruled out as being a little too hazardous for the local population, with the odds in the Rocks' favour. Another idea was to put an end to Ripple Rocks with a single, simple atomic bomb. The



The vertical shaft from the installation in this picture descends 572 ft., and from the bottom a 300 ft. tunnel leads to a maze of galleries packed with explosives inside Ripple Rocks, an underwater mountain in the waterway between Vancouver Island and the mainland of Canada that was eventually blown to pieces. Illustrations from photographs by the author.

originators of this plan seem to have overlooked the fact that the radioactive fall out from an underwater atomic explosion would contaminate most of coastal British Columbia, and at the same time would probably write off completely

Frogmen dived into the waters of Seymour Narrows to secure rock samples at various depths.

the raw material of one of the Coast's biggest industries—catching fish.

Eventually, in 1955, Dolmage and Mason, a firm of consulting engineers in Vancouver, submitted plans for filling the insides of Ripple Rocks with tremendous amounts of conventional explosive, by the expensive and time consuming, but none the less practical method, of drilling a tunnel under the seabed and up into the rocks themselves. In October of that year the Canadian Department of Public Works let the contracts for the project to Northern Construction and J. W. Stewart Ltd., and Boyle Bros. Drilling Company, and work commenced.

First a causeway was built connecting Maude and Quadra Islands, and on the latter were erected the construction camp, dormitories, offices, power station and all important cookhouse, for the nearest town, Campbell River, was an hour's boat journey away. At a point on Maude Island a vertical shaft was then sunk 572 feet, and from its base a seven foot wide tunnel started under the ocean floor to the point 2,941 feet farther on where it would branch upward into two separate 320 foot passages into the Rocks themselves, which would be honeycombed with an additional 569 feet of corridors to hold the explosive.

Rock samples taken during the initial drilling and tunnelling showed that the project was safe and practicable, with no cracks, fissures or soft rock to contend with. But when the time came to drill the explosive galleries, the ends of which should be at a carefully specified distance from the outer surface of the Rocks to ensure correct shattering from the explosive, it was found that what charts there were of the Rocks' shape were not very accurate. So the contours were remapped by the technique of drilling out through the rock face into the sea—immediately plugging the drill holes for obvious reasons! In this way a sufficiently accurate plan of the Rocks' outer shape was obtained.

It was known that a combination of sufficient water to contain the explosion to the extent desired, and a fast enough ebb tide to help carry away much of the shattered rock into deep water, would occur on 5th April last, with alternative dates later in the month if weather conditions were unsuitable on "Blast Day". The engineers were anxious to avoid low cloud, as shock waves might then be deflected downward from the explosion into nearby inhabited areas with risk of considerable damage. A south wind was also wanted to carry the fumes of the explosion northward into uninhabited areas.

In March work was started on protective bunkers to house engineers, scientists, news, newsreel and TV photographers, and the inevitable distinguished visitors. A main bunker was constructed at a point on Vancouver Island, south of Ripple Rocks and about a mile away, from which an unobstructed view would be given. On Quadra Island, only 2,400 feet from Ripple Rocks, a second bunker was built for scientists, photographers, and the man who would close the firing switch.

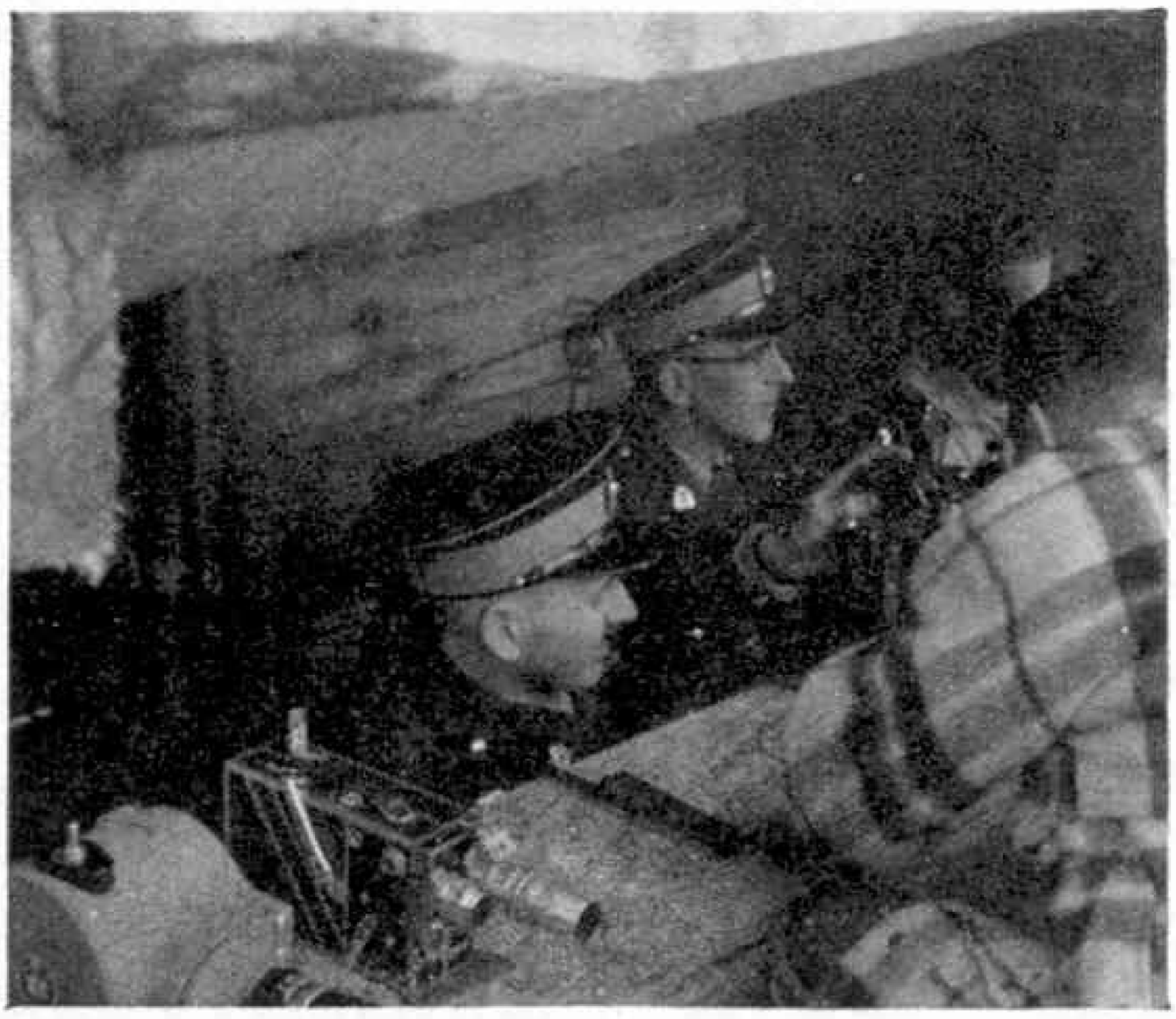
In the last weeks before the blast work was also going ahead in moving construction equipment to safer locations, and sandbagging important remaining

Bang goes a mountain! The cloud of smoke and debris rose to a height of about 800 feet in 10 seconds.

installations, and those built for the scientific teams who were now arriving. Nitramex 2H, a special DuPont explosive was used, and 1,375 tons of it in 71,500 cans was packed in the galleries in the Rocks. In nearby Campbell River souvenir pieces of Ripple Rocks were already on sale, and on Quadra Island a herd of local goats, after warming up for some days by chewing the insulation off instrumentation cables, was found enjoying some of the explosive primer cord that had to be ignited to fire the charge. They were given a wide berth for some days in case they blew up whilst hiccoughing.

Only a few days before the 5th, Ripple Rocks almost claimed their last victim, when a frogman working in 80 feet of water around the Rocks at slack tide, found himself in difficulties in the dangerous currents. He was recovered unconscious by his attendant boat. Frogmen were used to obtain rock samples from the outer face of the Rocks during the project.

The morning of the 4th brought a full operational rehearsal, and at midnight, with aircraft warned off for the morrow, the R.C.M.P. threw a land and sea cordon around an area within a three mile radius of Ripple Rocks, from which the inhabitants about 50 in all, had been evacuated. Early in the morning of Blast Day itself, the scientific teams, photographers, radio and TV teams and observers moved into position to await the final forecast at 8.30 a.m. The explosion was scheduled for 9.31 a.m. local time. Although the weather was far from ideal, from a photographic point at least, the heavy cloud was above the danger limit and the word was given to go ahead.



Preparing to photograph the explosive blast from a protected bunker 7,000 feet away.

At 9.16 a.m. two red rockets soared into the air from Quadra Island, notifying 15 minutes to go. Five minutes later a parachute flare confirmed that it was ten minutes to zero. Then came a single red rocket at zero minus five minutes as a final signal and warning for everyone to take cover. As the thirty second count down came over the radios, cameras whirred into action and radio announcers ceased their small talk and then, at exactly 9.31, Dr. Dolmage closed the firing switch.

Between Vancouver and Maude Islands the tell-tale ripple erupted into a mushroom of gas, rock and water that within ten seconds rose to a height of over 800 feet, and spread across Seymour Narrows until both

(*Continued on page 456*)

B.O.A.C.'s Junior Jet Club

By John W. R. Taylor

WE were four miles high over France, in the cabin of a B.O.A.C. Britannia 102 air liner, when Susan and Michael first heard about the Junior Jet Club.

Less than an hour earlier we had walked up the stairway into the aircraft at London Airport under a dark rain-filled sky. Now the clouds were all below as we cruised along smoothly and quietly, in bright sunshine, at a speed higher than the top speed of a Battle of Britain Spitfire fighter.

Ahead, for us, lay all the excitement of a holiday in Italy. Most of the other passengers were going further, including the tiny baby who was fast asleep in a Sky-cot fastened on the luggage rack and who was making his second 6,275-mile flight between London and Johannesburg before he was six months old. Although he is not old enough to appreciate it, that baby too is a member of the Junior Jet Club, and so are more than 29,000 other young people under the age of 21.

Susan and Michael were added to the list when the stewardess walked up to our seats with an armful of large envelopes and asked: "Would your little boy and girl like to join our Club?"

It was a question that needed no answer when she explained that members are given a blue and gold badge like a pair of pilot's "wings" and a neatly-bound log book in which to keep a record of all the flights they make on board B.O.A.C. air liners.

For the next ten minutes there was complete silence as the children filled in the enrolment card which ensured that their names were added to the register of members at the airline's headquarters in London. By the time they had also written their name and address in the log books, read the message in the front from that most famous of all British civil airline pilots, the bearded Captain O. P. Jones, and studied the air liner photos at the back, the stewardess had reappeared.

An Easter holiday party of unaccompanied school children boarding a B.O.A.C. Argonaut air liner for Tripoli and Lagos. The illustrations to this article are reproduced by courtesy of British Overseas Airways Corporation.

She explained that these are no ordinary log books. On the contrary, each entry is written in by the flight crew of the aircraft in which the Club member travels and signed personally by the Captain. As a result, Susan's log, which I have in front of me as I write this, contains the entries:

Date of Flight	*Aircraft and Registration*	*From*	*To*	*Hrs. Mins.*	*Statute Miles*	*Captain's Signature*
20.5.58	B.102 G-ANBM	London	Rome	3.00	910	J. Stratton
3.6.58	Britannia G-ANBN	Rome	London	3.15	910	H. Powell

In the pantry of the Argonaut, Deborah and Shelagh help stewardess Shirley Hudson to wash up.

Only flights made by B.O.A.C. are entered in the log, and it may be some time before she adds to that total of 1,820 miles. But many Junior Jet Club members already have tens of thousands of miles in their log books, although the Club was not started until 26th March last year.

Twenty of them had each logged more than 25,000 miles in the fifteen months up to June of this year, and had been awarded special certificates to show what experienced air travellers they are. By the time this issue of the *M.M.* appears, the total will be much higher. For a start, at least 2,000 unaccompanied children have flown overseas by B.O.A.C.in the past couple of months to spend holidays with their parents, and some have gone as far as Australia, Hong Kong and South Africa. Just one journey to Sydney and back represents more than 24,000 miles of flying, and some children make the shorter trip to the Middle East and back two or three times a year between terms. As a result, it will not be long before some members are able to claim certificates for 50,000, 75,000 or even 100,000 miles.

The whole idea started when somebody in B.O.A.C. suggested it would be a good idea to encourage air-mindedness in all the young travellers who flew in the Corporation's aircraft. For some years, the airline had put on "Lollipop Specials" at holiday time, carrying only children and stocked with ice cream, lemonade and other "tuck" instead of the less-exciting things that grown-ups eat and drink. It provided games, toys and books to help while away the hours in the air, chose Captains for the aircraft who could withstand a barrage of questions from small boys, and stewardesses who would not object if a little girl decided to help with the washing up.

One boy, named Anthony Myers, who happened to have his eleventh birthday whilst *en route* from London to Lagos was given a real surprise when the stewardess produced an iced birthday cake and organised a tea party for the 23 children on board the aircraft 15,000 ft. over the Mediterranean.

All these little kindnesses bore out the famous claim that "B.O.A.C. takes good care of you"; and it seemed a pity to lose touch with the young travellers once they stepped off the 'plane at their destination. The Junior Jet Club remedies this, because members receive their own special newspaper called *Fleetwings*, containing messages from the Club, pictures and a quiz page. In return, they write letters about their flights, how they are getting on at school, the places where they live, their pets and anything else that interests them.

Anthony Myers being presented with a birthday cake by B.O.A.C. stewardess Margaret Macklin on his eleventh birthday.

One letter from a boy in the West Indies told a very sad story. It seems that he stopped in Ireland whilst flying from London to Jamaica and decided to take his tortoise for a walk. Afterwards, his mother put the pet back in its cardboard box on the luggage rack of the air liner; but when they arrived in Jamaica the box was empty.

It was such a nice letter, and the boy so obviously upset at losing his pet, that B.O.A.C. decided to do something about it. They asked him to describe his tortoise. By return post came an odd-shaped letter which said "My tortoise is about as big as this bit of paper. It is very hansem with blacq spots." No tortoise answering to this description had turned up in the lost property offices, so B.O.A.C. bought a new one and had it flown out to Jamaica, where it was collected by a *very* happy and proud little boy.

Another, rather different, letter came from a member who wrote: "We have moved to a new house. Our old house had a swimming pool. I hope you are having a lovely time at the Junior Jet Club. We are. The other morning we heard five bullets being shot by a robber at the back of our house. The robber wanted to rob our chickens. We are lucky, because whenever they rob anything in our house we can tell the owner who lives next door."

Such letters not only make interesting and sometimes amusing reading, but emphasise the truly international scope of the Junior Jet Club, which has members in every part of the world.

Members Nos. 1 and 2 are Sydney Pearson and his sister, June, who flew by Britannia from London to Salisbury, Southern Rhodesia, on 26th March, 1957, the day the Club came into being. At the time they were 13 and 10 years old respectively, which is quite old compared with some members, the youngest of whom was only seven days old when, unknowingly, she joined the Club.

Most unusual member is Inanimate Member No. 1—Archie Andrews, the famous TV and stage companion of ventriloquist Peter Brough who qualified by flying B.O.A.C. when he travelled to Australia for a variety tour.

All except Archie were invited earlier this year to take part in a painting competition, for which prizes of up to £15 in cash were awarded. The subject they had to depict was an aircraft or airport scene; and the 378 entries were so varied and colourful—especially those sent in by young people from East Africa—that the judges had a very difficult job to choose the winners.

There will be further international competitions and many other bright ideas in the years to come, because this is a Club that will grow bigger each year and yet will stay young, because its members will always be young. From it they get an added interest in flying and the people and places they see as they travel. In return B.O.A.C. benefits by making friends of the young people who will be the regular air travellers of the future.

Sydney Pearson and his sister June, the first two registered members of the B.O.A.C. Junior Jet Club, with Capt. Marsden of the Britannia aircraft in which they flew to Salisbury, Southern Rhodesia.

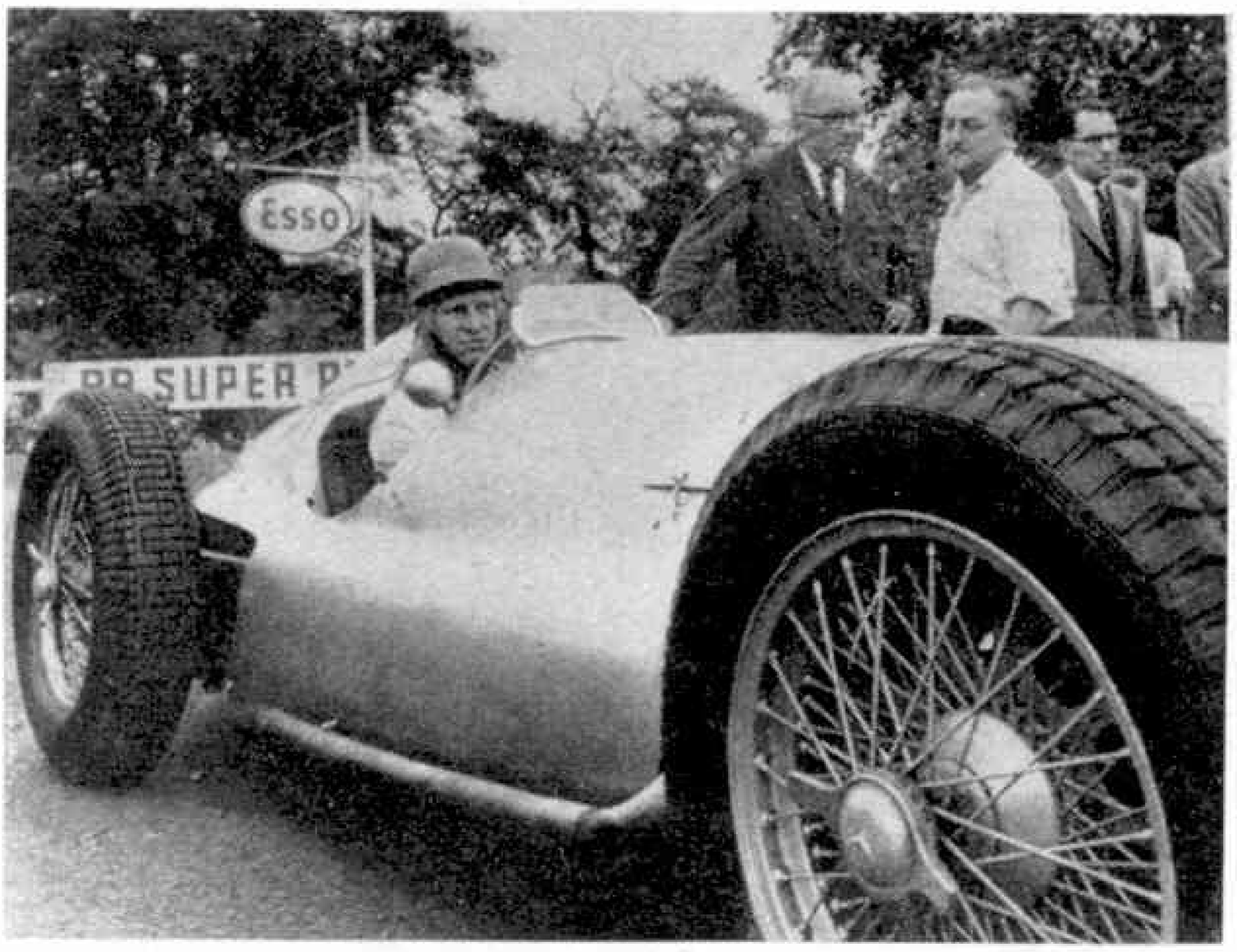
The only people who appear to be worse off are the air liner Captains, whose wrists will certainly ache after signing the log books of a 'plane-full of Junior Jet Club members when the big 150-seat Boeing 707's get in service. And yet, if you watch them talking to the young passengers on any B.O.A.C. aircraft, you will soon realize that they enjoy it as much as anyone, because there is a bond of friendship between all who love the air, young or old.

Road and Track

By Peter Lewis

IF the Moroccan Grand Prix does not take place, the Italian G.P. at Monza on 7th September will be the final Formula I World Championship event of the 1958 season. As always, we can expect a battle royal—although an open race—between the rival *marques* on the very fast 6.2 mile Monza circuit. The atmosphere at the famous autodrome on the outskirts of Milan is always an electric one and I never go there without expecting a tremendous scrap. The spectacle of the cars sweeping down off the new banking and passing the pits at speed is unforgettable, and given a dry circuit the 1958 Italian G.P. should average over 121 m.p.h. with a fastest lap in the region of 125 m.p.h.

If you have been keeping a chart throughout the season, showing points gained in the eight championship events that have taken place, you must remember that the final placings for the World Championship will be assessed on a driver's best five performances out of eight or nine events run or—if the Moroccan race takes place — the best six performances out of ten. It is incorrect to total the points gained over the season in all the championship races.



Peter Collins, who died after an accident in The German Grand Prix, at the wheel of one of the two pre-war Mercedes-Benz racing cars that gave such an impressive series of demonstration runs at Oulton Park.

Juan Manuel Fangio

One cannot talk about the Championship of the World without paying a tribute to Juan Fangio, to my mind the greatest driver the world has ever seen. Now at the age of forty-seven, many years senior to his nearest rivals Moss and Hawthorn, this phenomenal driver has been Champion of the World five times since 1950, has held the title successively for the last four years and has never failed to display the finest qualities of sportsmanship. At Rheims, where he drove a Maserati in the French G.P., I was standing on the starting grid talking to Tony Brooks a few minutes before the start when I learned that Fangio had given a warning at the briefing of the drivers about the corner beyond the pits. He wanted it generally known that, following the earlier races, rubber dust and oil had made the corner very slippery and it was not safe to take it "flat out" as in practice. This is typical of a man who has kindness as well as a rugged determination in his features.

There are so many qualities typical of Fangio that it is difficult to single out one or two. To me his success comes from a tremendous determination to win whatever the odds, the ability to concentrate one hundred per cent. from start to finish of a race—which is the very essence of the sport and means seconds saved every lap—and a remarkable conscientiousness for the job in hand. We shall miss him. Few of us could ever converse with him, as he only spoke Spanish, but we are all glad that the "old man" has emulated the great Tazio Nuvolari and retired gracefully to a quieter way of life.

At the time of writing we are wondering who will succeed him as champion this year.

Mercedes-Benz

What a magnificent sight it was to see the two pre-war Mercedes-Benz racing cars at Oulton Park earlier this season in the hands of Peter Collins and Tony Brooks.

Graham Hill, one of the latest recruits to the ever growing ranks of British Grand Prix drivers, discusses the new Lotus Fifteen sports car with Duncan Hamilton on the starting grid at Oulton Park earlier this season. Photograph "Sports Car and Lotus Owner".

The cars were brought over here to honour the memory of Richard Seaman, the great British driver who raced for Mercedes before the war. Both Collins and Brooks were tremendously impressed with the power developed by these giants of the past, one of which, the W.125 of 1937 vintage, is still the most powerful racing car the world has ever seen.

The 5.6 litre, eight cylinder, in line engine of the W.125 develops 646 b.h.p. at 5,800 r.p.m. and the type was timed during Grand Prix races at speeds well in excess of 200 m.p.h. In first gear the W.125 could do 90 m.p.h., in second the speed was 137 and in third 160.

The other Mercedes at Oulton Park was the W.163, a car that was built during 1938/9, and was slightly slower than the W.125. With a 3 litre, 12 cylinder V engine and a five-speed gearbox, it developed 483 b.h.p. at 7,800 r.p.m. and had a top speed of 195 m.p.h. in fifth gear.

It is interesting to compare these figures with those of present day racing cars. The engine capacity of Formula I G.P. cars is limited to 2,500 c.c. unsupercharged or 750 c.c. supercharged, and although maximum speeds have dropped from over 200 m.p.h. to approximately 170 m.p.h., the average race speeds on circuits have increased. This is because of various factors, such as the improvement in brakes and brake linings and the advent of disc brakes, lower and lighter cars which are easier to handle around corners, tyres with longer life and better roadholding properties and improved suspension systems. Truly, motor-racing improves the breed.

Graham Hill

Less than two years ago, during a Goodwood Test Day, I had the pleasure of driving a Lotus Eleven with a Ford side valve engine known as the "Yellow Peril". This was a very rapid sports car with which a certain Graham Hill put up some astonishing performances. At that time Graham was with Colin Chapman's Lotus team, although not in the capacity of a regular "works" driver. In fact, it was not until he had left (Cont. on page 456)

A thoughtful World Champion at Rheims during the briefing of the drivers by the Clerk of the Course. Standing behind Fangio is Mike Hawthorn, who won the Rheims G.P. so convincingly.

Railway Notes

By R. A. H. Weight

L.M.R. Travels and Observations

Quite an innovation since the summer services were introduced has been the regular use of Pacific locomotives on expresses between St. Pancras and Manchester over the steeply graded route through Derby and the Peak District. Seven Britannia 4–6–2s transferred from the Southern, Eastern and Western Regions are stationed at the time of writing at Trafford Park, Manchester.

The first reported observation concerned No. 70042 *Lord Roberts* (from Stratford) heading north on the *Palatine* in June; in July I saw No. 70015 *Apollo* (ex Cardiff, Canton, depot) leave St. Pancras with the 4.25 p.m. to Manchester, and also heard of other workings. Timekeeping on fast schedules should be improved by this working and some of the double-heading will be avoided.

L.M.R. No. 46108 "Seaforth Highlander" of the Royal Scot class at Morecambe South Junction on a Barrow–London express. Photograph by Frank Wilde.

Royal Scot 4–6–0s have partially disappeared from the Midland Division. The smaller 6P Jubilees remain in great demand thereon, and many other locomotives were pressed into passenger service during the busy holiday season.

The extensive forward or backward views obtainable from diesel units, in addition to customary observation through spacious side windows, may be enjoyed to excellent advantage. The Carlisle–Keswick–Workington runs are an example, as fine Lake District scenery is traversed and there is a good deal of single line travel with considerable curvature and steep grading.

My recent journeys in clear weather on this route were very entertaining and instructive. As a two-coach set we ran at about 60 m.p.h. along the 17¾ miles of the West Coast main line, mostly uphill, from Carlisle to Penrith, and thence on to a more spectacular secondary route. The driver took train staffs authorising him to proceed over stretches of single track; a maximum of 68 m.p.h. was attained from a falling 1 in 62 grade; "Saddleback", a queerly shaped 2,800 ft. peak loomed ahead; and we reached the attractive Lakes town of Keswick, saw the head of Derwentwater and ran right alongside Bassenthwaite Lake.

On the main line, class 5 4–6–0s Nos. 45196 and 45433 passed on passenger or parcels trains, and Patriot No. 45543 *Home Guard* on a fast freight. Ivatt class 2 2–6–0 No. 46488 was near Keswick with a train of 21-ton ballast tip-wagons.

At Carlisle I had seen Jubilees Nos. 45729 *Furious* and 45713 *Renown*, from Kingmoor shed, take on into Scotland restaurant car specials brought in off the Midland Division respectively by Jubilee No. 45675 *Hardy* and N.E.R. V2 2–6–2 No. 60910. While southward bound by stages, including speedy short voyages aboard L.M.R. motor vessels *Tern* and *Swift* on beautiful Lake Windermere, I travelled over Shap summit behind class 4 2–6–4T No. 42539 on a local; saw No. 45596 *Bahamas* on a Perth–Manchester semi-express and No. 72001 *Clan Cameron* on a faster Liverpool–Glasgow one. I also noted the northbound Royal Scot in full cry towards Shap, and again next day approaching Crewe, in each case a little ahead of time with a heavy train headed by one of the later Stanier Pacifics.

I returned south on the Blackpool and Furness line to Euston express, due there at 3.0 p.m., with a load from Crewe, after attachment of dining cars, of 14 coaches giving some 465 tons gross behind the unnamed rebuilt Patriot 4–6–0 No. 45528. There was drizzle, and several track repair and signal delays had caused some loss of time, though with speeds up to 78 m.p.h. the Camden driver had been endeavouring to recover what he could. We had a 165-min. timing for 158 miles non-stop and were 4 min. down at Blisworth. Then more adverse signals preceded diversion on to the slow line from Roade to Bletchley, a distance of 13 miles, during which the up *Caledonian*, due Euston at 3.10 and running early, swept past us at over 80 m.p.h. headed by *City of Glasgow*, amid exchanges of whistles, waves and derisory signs!

With our much heavier train and less powerful locomotive, we pressed on behind and after attaining a maximum of 80 m.p.h. near Wembley reached the London terminus at 3.14. Given a clear road from Blisworth, an arrival undoubtedly could have been secured quite 10 min. sooner, but the Traffic Controllers were taking no chances with the Scottish Flyer!

On another more favourable occasion I saw the 3.0 p.m. with a similar load arrive 7 min. early hauled by *Royal Scot*, well ahead of the *Caledonian* which ran in that day, before time, at 3.7.

Locomotives in the News

The first main line diesel-hydraulic locomotive to be built in British Railways' workshops, at Swindon, inaugurating a series of 33 for W.R. service, numbered D800, was lately completed and on trial, named after the Chairman of the British Transport Commission, *Sir Brian Robertson*.

New steam 2–10–0s Nos. 92193-4 were allocated to 36A, Doncaster shed, and Nos. 92221-3 to 84C, Banbury, with more in each series following.

Diesels added to stock have included Nos. D8400-1, 800 h.p., Bo-Bo, to 30A, Stratford and No. D8206 to 1D, Devons Road. Of six-wheeled shunting types,

Nos. D3495-6 went to Stratford; Nos. D3515-8 to 83D, Laira, Plymouth; Nos. D3519-24 to 83A, Newton Abbot; Nos. D3435-7 to 87B, Duffryn Yard, S. Wales; Nos. D3659-63 to 41A, Sheffield; No. D3672 to 51A, Darlington; Nos. D3673-4 to 52E, Percy Main, Northumberland; and Nos. D3675-6, 53C, Springhead, Hull. All these have electric transmission.

Diesel-mechanical 204 h.p locomotives Nos. D2021-2 have been allocated to 40B, Immingham. Two small service shunters for Engineers' Dept., E. & N.E. Regions, have been completed and numbered 91-2. Diesel-hydraulic 300 h.p. four-wheeled shunters numbered D2904-5 have gone to Devons Road.

The restored ex-G.W.R. 4–4–0 *City of Truro* has been hauling a number of specials. During July it appeared at Paddington on Reading, etc., ordinary passenger trains, up in the morning and returning in the evening, instead of journeys down into Hampshire from Didcot. Several more Castle 4–6–0s have been fitted with double chimneys and larger superheaters. S.R. recently rebuilt Merchant Navy Pacifics are Nos. 35002 *Union Castle* and 35030 *Elder Dempster Lines*.

An evening express for Weston-super-Mare hauled by No. 7027 Thornbury Castle emerging from Twerton Tunnel. Photograph by R. E. Toop.

Scottish Tidings

The pioneer electric battery railcar in Britain began regular running last spring along the well known Aberdeen–Ballater branch, passing through Deeside and terminating amid fine scenery at the nearest station to Balmoral Castle. The outfit is a twin or two-coach set in the same attractive style as the familiar diesel passenger sets, with two electric motors actuating the bogie of one of the coaches, drivable from either end. There is seating for 117 passengers.

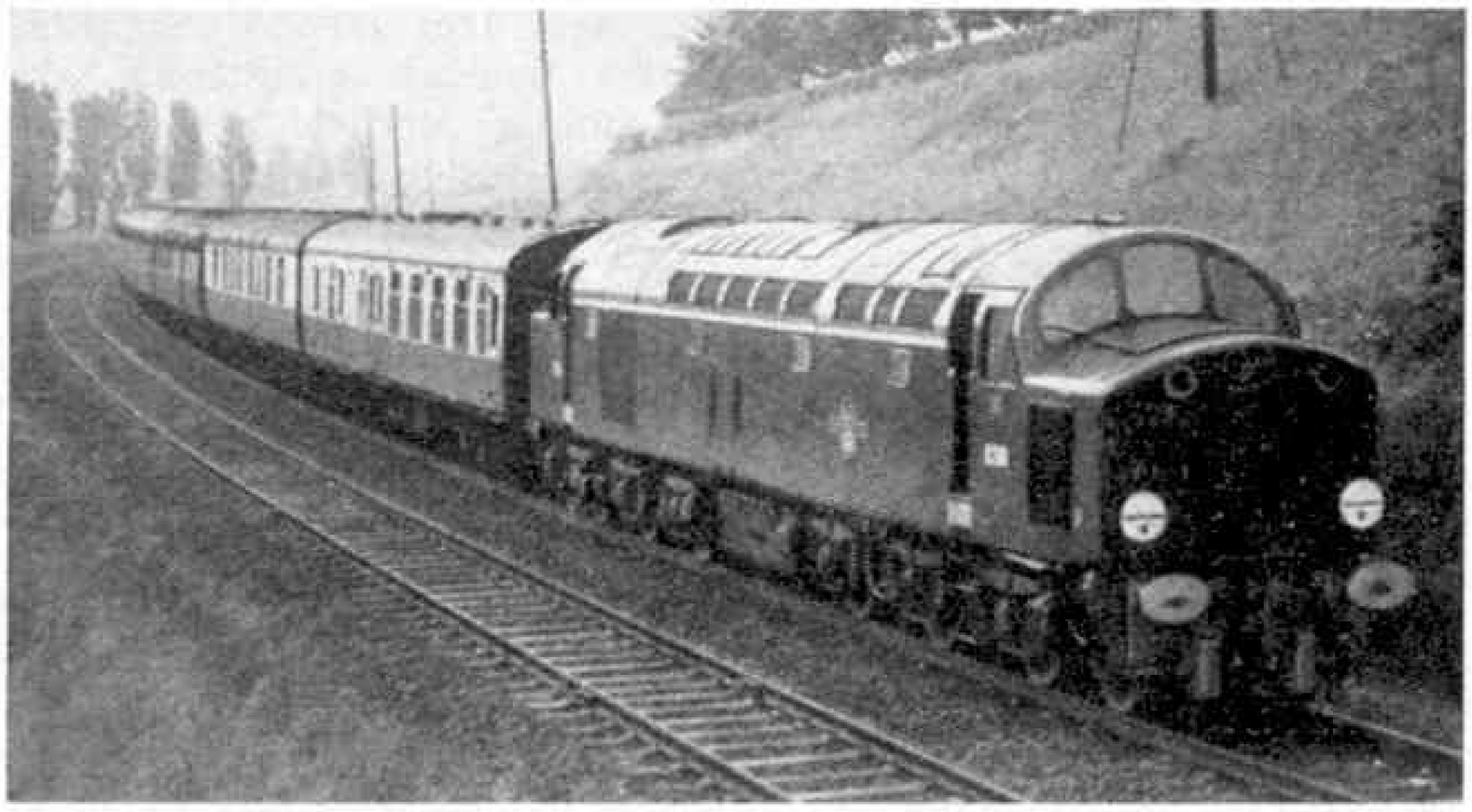
Current for propulsion, lighting and so on is taken from batteries installed under each coach. Battery charging plants incorporating the latest practice are installed at each end of the journey. This is an interesting experiment devised in conjunction with the North of Scotland Hydro-Electric Board and several firms, and may be extended.

Diesel services are also running or planned on the Ballater branch; along more lines in the Edinburgh district; around Glasgow, on the Glasgow (Central)–Edinburgh (Princes Street) route; and there are plans for longer distance diesel runs extending to Fife, Dundee, Grangemouth, Larbert and elsewhere. Meanwhile longer distance and other steam services continue in full swing apart from some reductions at quiet periods. Work is proceeding, too, on structural preparations for the overhead Glasgow suburban electrification scheme.

Down the Folkestone–Dover Main Line

There is now a full service of diesel-electric Hastings trains between London and Tonbridge. On summer Saturdays, for the first time this year, some of the express or semi-fast trains through between Charing Cross and the Dover area are formed of these multiple unit sets, as are London–New Romney trains branching off at Ashford, running partly on single line and serving holiday camps near the coast and Dungeness. Since the two Britannia Pacifics departed for the Midland, smartly turned out West Country 4–6–2 No. 34091 *Weymouth*, has been frequently noted hauling the *Golden Arrow*.

On a July Saturday I saw six unmodified engines of the same class pass on Continental boat trains in less than two hours, the heaviest, of 14 vehicles, weighing about 460 tons full. The fastest through Ashford just then was travelling at over 70 m.p.h. towards Victoria. There were rebuilt West Countries on through W.R. Birkenhead or Wolverhampton services taken over at Redhill, Surrey, and also on Charing Cross–Ramsgate trains via Dover, as well as Schools. King Arthurs and a standard class 4 4–6–0 worked fast Folkestone–Dover–Deal services, while secondary trains were handled by Moguls, L1 and L 4–4–0s, L.M. type class 4 2–6–4Ts and standard class 2 2–6–2 tanks mainly.



English Electric diesel No. D201 was here making a first trial appearance on a Newcastle–King's Cross express when photographed by C. Ord.

New Signals for Old

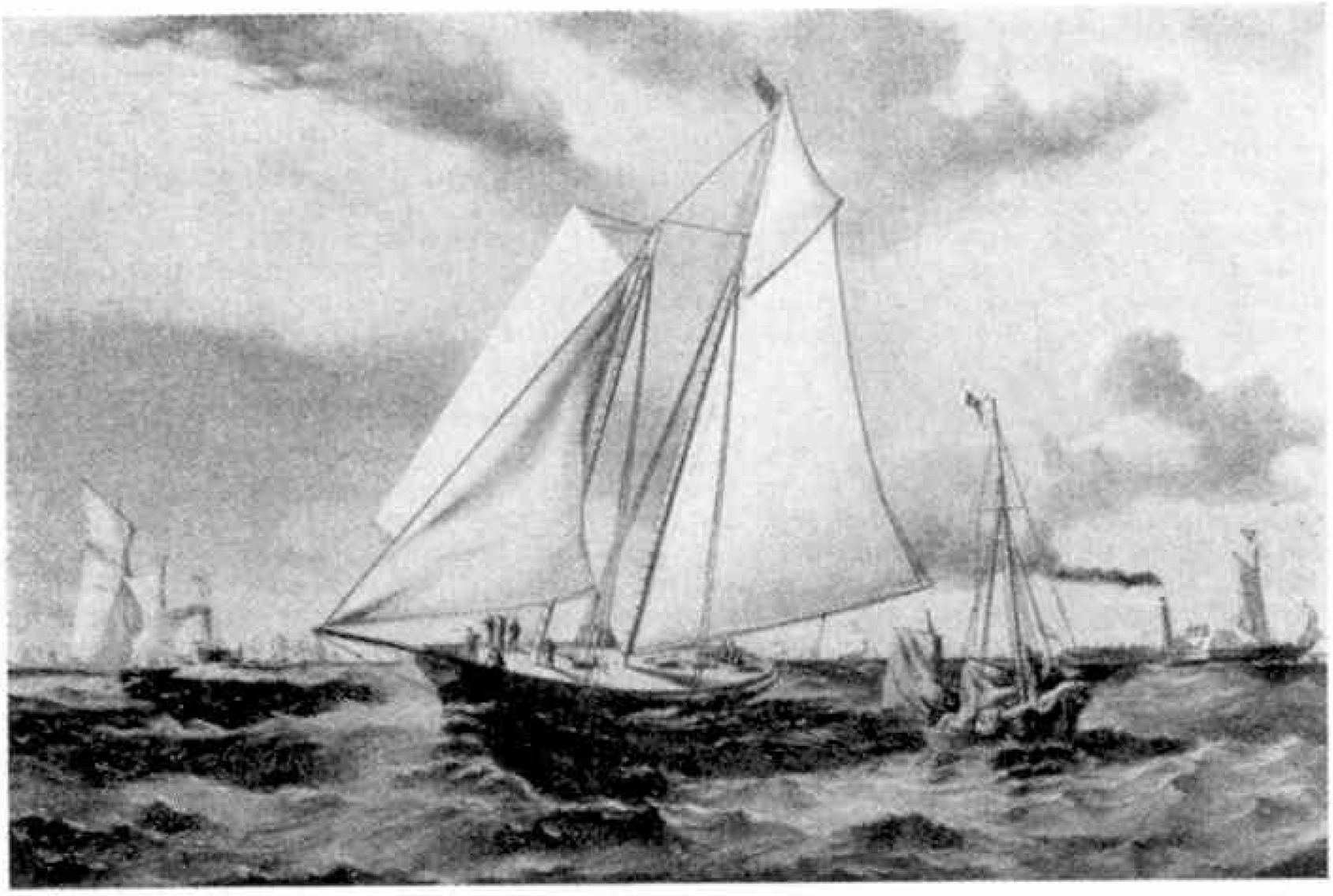
Recently colour light signals with track circuit control replaced mechanical signalling between Wilmslow and Slade Lane Junction, L.M.R. Signal boxes at the junctions at each end can exercise an overriding control as necessary.

The "America's Cup"

The World's Most Fabulous Yacht Contest

By Arthur Gaunt

A SILVER trophy that cost only £100 to make, but which has caused the expenditure of millions of pounds by yachtsmen—that's the America's Cup, the most remarkable award in yachting circles, if not in the whole field of competitive sport. It comes into the news again this month, when another attempt is to be made to bring it back to Britain.



The Schooner America winning the Royal Yacht Squadron Cup off Cowes in 1851. The trophy has since remained in U.S. custody, despite efforts to win it back for Britain. Illustration by courtesy of U.S. Naval Institute.

Despite its name, the Cup was originally a British award. It was first offered by the Royal Yacht Squadron for the winning of a race round the Isle of Wight in 1851. The event, open to yachts of any nationality, was won by the *America*, a sleek knife-bowed schooner, and was taken to the United States.

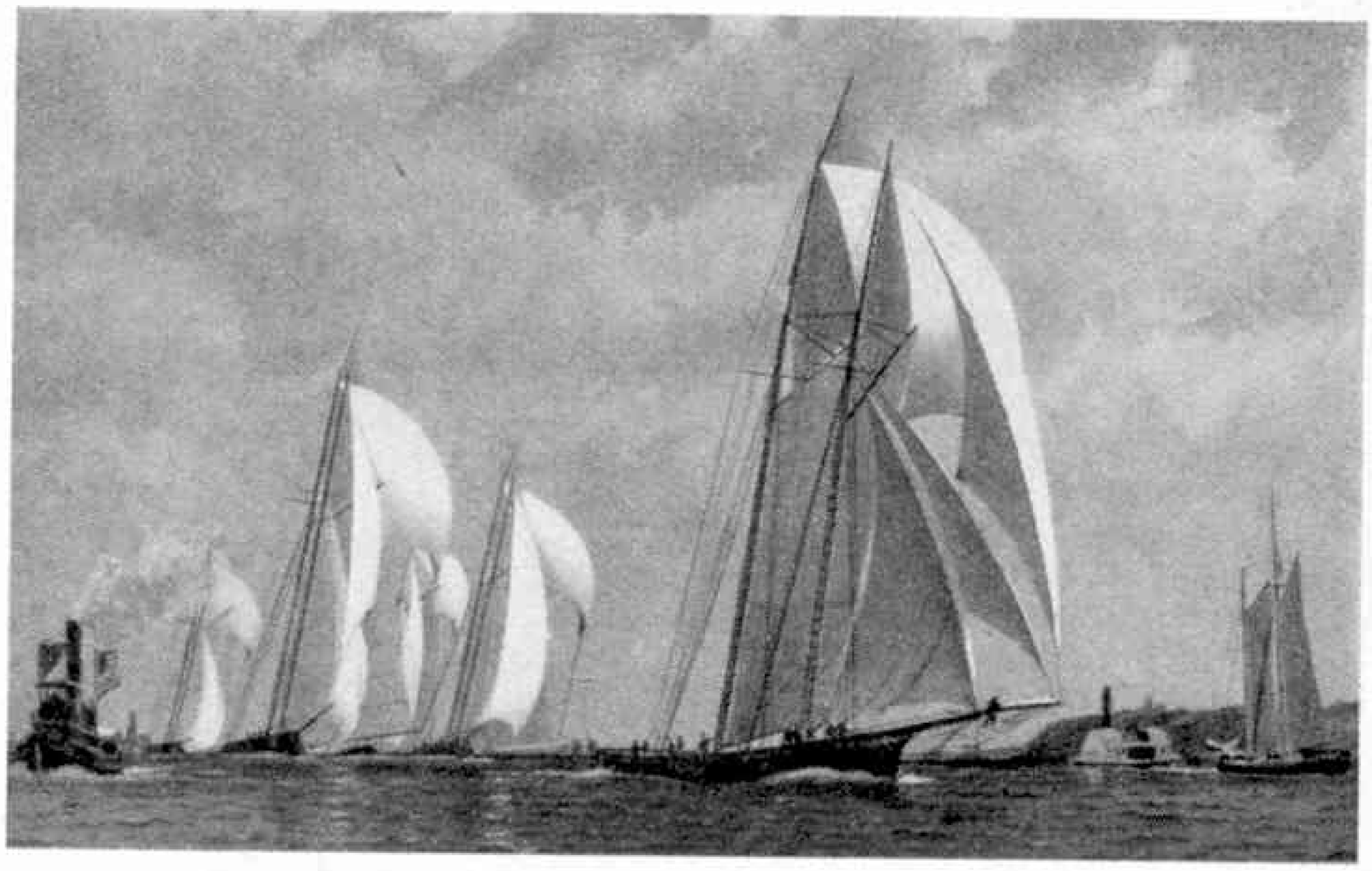
Repeated attempts to retrieve it for Britain have since borne heavily on the pockets of wealthy men in both the United Kingdom and America. Sir Thomas Lipton is reputed to have sunk £1,500,000 in such efforts, none of them successful, while American yachtsmen are said to have spent at least half that sum each time they have defended the Cup. Altogether there were sixteen attempts, including two by Canada, to wrest the trophy from its American holders up to the outbreak of World War II.

The thrilling story really began in 1850, when a rich American sportsman, John C. Stevens, formed a syndicate of experienced yachtsmen to build a yacht suitable for racing at Cowes. They gave the contract to a boat-builder on condition that no charge would be made if she did not turn out to be the fastest ship in the United States. Nor was any payment to be required if the yacht was beaten by any ship of her own size in British waters. If she fulfilled these conditions, the price was to be £6,000; otherwise the syndicate would not guarantee to accept her.

The *America*, as she was named, was, in fact, beaten by another yacht during her trials. So the syndicate struck a bargain, buying her for two-thirds of the price named. Her arrival off Cowes in August 1851 caused something like consternation among British yachtsmen. Revolutionary in design, she looked a serious challenger to the British yachts. Her builders had reversed the usual idea of a fuller forepart than aft section, and she carried close machine-woven sails instead of the customary loose hand-woven sails of British yachts.

The general British opinion of the American ship was expressed by the Marquis of Anglesey, who declared: "If she's all right, we're all wrong!"

And so it was. Of the fifteen yachts entered in the Royal Yacht Squadron's Cup Race on 22nd August, 1851, fourteen were British, yet the challenger from



The first America's Cup Race in 1870. It ended in defeat for Britain, the British challenger coming in tenth. Illustration by courtesy of U.S. Naval Institute.

across the Atlantic beat them all soundly. Second place was taken by an "outsider", a little yacht that crossed the finishing line eight minutes after the American vessel!

The Cup thus won for America was later presented by John C. Stevens to the New York Yacht Club as a perpetual challenge trophy, to be won by any yacht club in the world. At the same time regulations governing the contest were drawn up. Broadly these stated that it must be between a yacht built in the country holding the trophy and one built in the country of the challenging club. Ten months' notice of the intention to challenge is required, and a full description of the challenger must be provided at the same time.

Another rule states that the challenging yacht must sail under her own canvas from her own country to that of the defender. One reason for this is that the *America* crossed the Atlantic to win the Cup. The clause is also intended to prevent the event from becoming merely a contest between specially-built but not fully seaworthy yachts.

The regulations have been revised from time to time, however, and as recently as 1956 they were altered to include smaller yachts than hitherto. Moreover, the contest is not a single race, for seven are held on consecutive days, off Newport, Rhode Island, and four wins decide the match.

The craft with which British yachtsmen hope to regain the America's Cup this year is the 34-ton *Sceptre*, built a few months ago at Sandbank, Argyllshire. She was financed by a syndicate of Royal Yacht Squadron members, and she has been constructed with all the help that science and craftsmanship can give.

A number of models were first made and tested in a tank at Southampton, and the most promising was then chosen to provide the measurements for the full-sized version. Even the cloth for the sails was selected only after exhaustive experiments and stringent tests.

After the official launching ceremony she was sent to the South Coast to test her paces against a twenty-two-year-old yacht of the same class that was refitted for the purpose, these preliminary races taking place on the River Itchen, near Southampton.

Sir Thomas Lipton nicknamed the elusive trophy the "old mug", and for his persistence in trying to win it back for Britain he was presented with a magnificent *gold* cup by

This emblem from the "America" for many years adorned a hotel at Ryde. It is now in possession of the New York Yacht Club, to which it was presented in 1912 by the Royal Yacht Squadron, the Duke of Sutherland acting as emissary.

American admirers.

The first contestant for the America's Cup, after the trophy went to New York, was a yacht built by a Mr. Ashbury. He was dismayed to find, when the time for the race arrived, that his yacht was expected to race against several American defenders and not just one.

Another British sportsman who spent a fortune in going after the Cup was Lord Dunraven, who built three *Valkyries*, but failed to win. Sir Thomas Lipton's first *Shamrock*, with which he similarly hoped to bring back the trophy, was built in 1898, and during the next 34 years he lavished huge sums on four further yachts of the same name—without gaining the prize which he coveted so much.

When he died in 1931 his place was taken by T. O. M. Sopwith, the famous aircraft designer, who sallied forth on behalf of British yachtsmen with his *Endeavour I*. Like the series of Shamrocks she was beaten by an American defender. Her successor, *Endeavour II*, racing against H. S. Vanderbilt's *Ranger* for the America's Cup in 1937, was no more successful.

Expert opinion has attributed these defeats largely to the fact that the British challengers have had to be constructed not only to race, but also to withstand the heavy weather of an Atlantic crossing. American defenders, on the other hand, have only had to be suitable for the much lighter winds where the races take place.

The position is now changed, for the rules allow challengers to be taken across the Atlantic by ship. So the *Sceptre* left Gosport in this manner early in August, to arrive in time to carry out trials before the actual contest.

One of the most thrilling dramas connected with the contest actually occurred outside the race itself. In 1937 *Endeavour I* was used by *Endeavour II* for preliminary pacemaking in American waters, and later she was sent back to England. During an Atlantic hurricane she broke adrift from the towing ship, and after a four-day search by coastguard cutters and naval aircraft, she was posted missing with all hands. Yet nineteen days later she sailed into the Solent, battered but triumphant, with everyone aboard her safe and sound.

Few people know that the yacht which won the Royal Yacht Squadron Cup for America in 1851 survived for nearly 100 years, or that she saw war service. She had several owners after her successful race round the Isle of Wight, and in the American Civil War she served on both sides as an armed naval vessel!

But she still remained a fine racer, and in 1870 she again put up a faster time than an English challenger for the America's Cup, occupying fourth place in the race.

Eventually she was sold to the Annapolis Naval Academy—a present really, for the price was the nominal sum of one dollar—and this gallant old cup-winner lay peacefully at her moorings until 1942.

Then, badly in need of repairs, she was hauled out of the water for reconditioning—only to collapse under the weight of a heavy snowfall. Experts pronounced her beyond repair.

And so the *America* came to her end. But she remains a legend to all who are interested in the sea, and her fame is perpetuated by the challenge cup named after her.

Britain's challenger for the America's cup, the Royal Yacht Squadron's "Sceptre", undergoes her first trial in the Firth of Clyde at Sandbank, Scotland, on 11th April. This September she will race in earnest off Rhode Island for the cup Britain has tried so long to win.

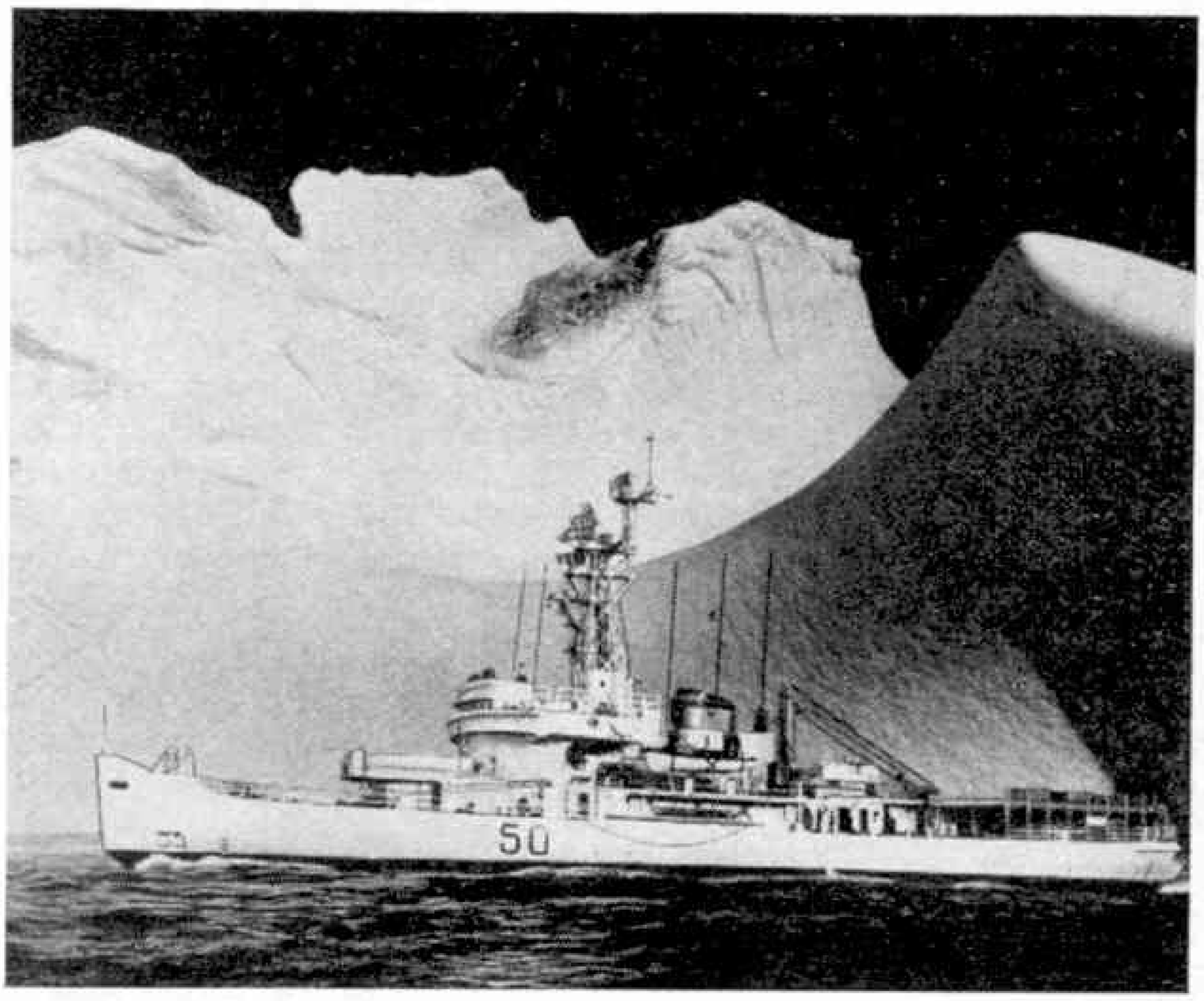
The D.E.W. Line

An Epic of Arctic "Construction"

By Frank Illingworth

THE construction of a chain of radar stations across 3,000 frozen miles of Arctic Canada and Alaska is one of the more notable engineering feats of the century. Its building included drama, heroism, madness born of solitude and fear; it called for men—tough men—to work under extreme polar conditions; it called for imagination, strength of will, engineering ability and adherence to the finer qualities traditional to polar exploration.

Its completion would not only provide the great cities of Canada and the United States with warning against possible unexpected attack by rocket or jet bombers from across the North Pole. It will lead to the industrial development of frigid tundras that have held the imagination of man and boy since Franklin set sail to discover the North-West Passage, indeed since the days of Henry Hudson, Davis, Fox, Mackenzie, Simpson and all those others who set off in sailing ships or on foot to explore the white, ice-grinding solitudes on the "roof of the world".



H.M.C.S. "Labrador", Canada's most famous icebreaker, led supply ships through pack ice to the Distant Early Warning Line sites in the Arctic.

The original plan, conceived six years ago, was to build a chain of radar stations along the polar shores from the extreme north-east corner of Arctic Canada, lonely home of the Eskimo, the polar bear, polar fox and walrus, to the farthest point of Alaska. It was to be known as the Distant Early Warning (Radar) Line and many among the knowledgeable said it was an impossible undertaking.

"How," it was asked, "do you deliver a quarter of a million tons of heavy gear to the selected sites in uninhabited, desolate polar country 2,000 miles from the nearest road or railhead?"

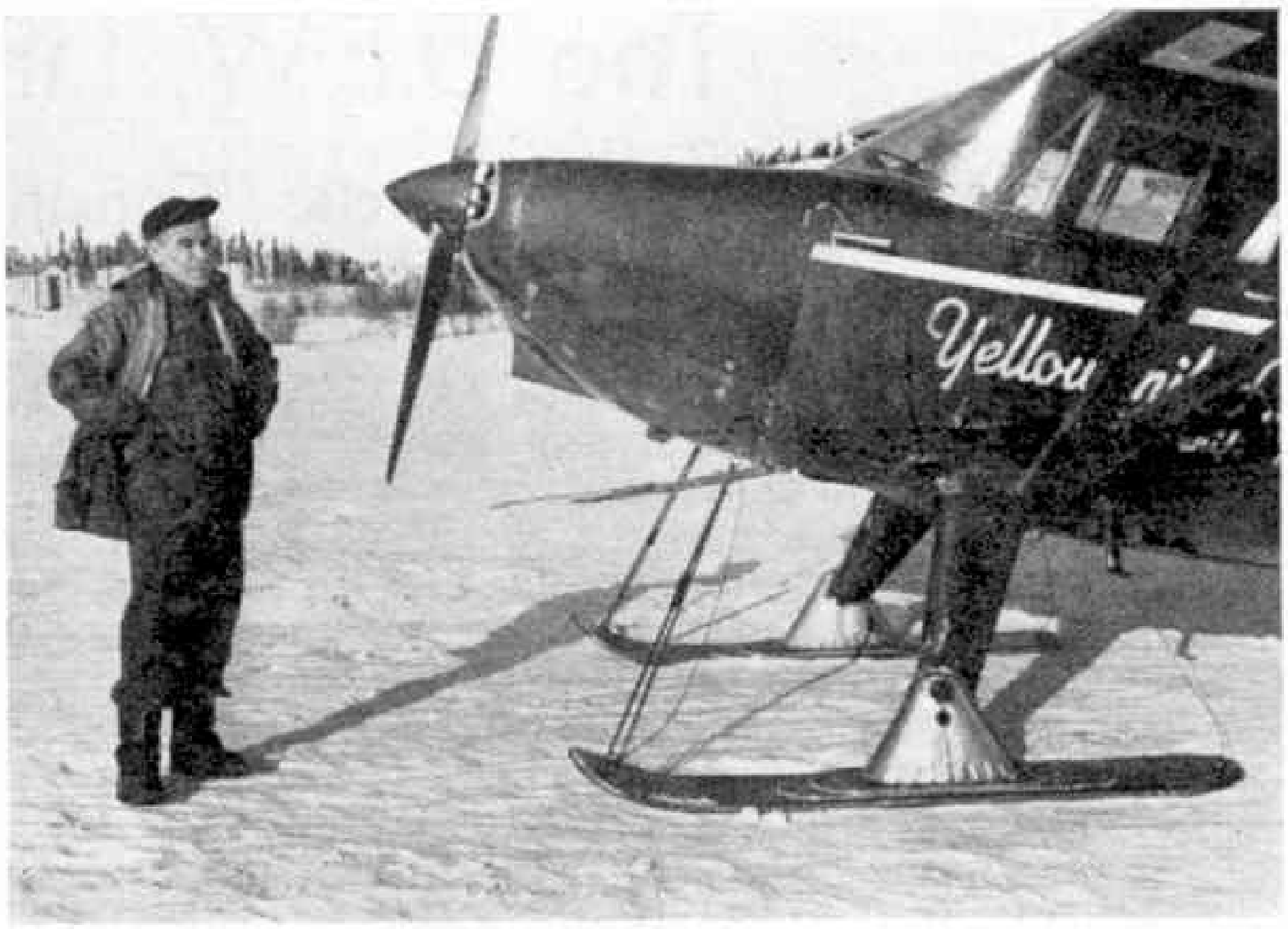
The answer was: "We'll send the largest fleet to be assembled since the Normandy Landings through the pack ice of the Far North, after surveying the route for three years with ice breakers using every aid from echo sounders to frogmen. Yes, even frogmen, who will operate under sea ice sometimes 20 ft. thick and sometimes drifting with the crunching sounds of collision."

The architects of the Dew Line plan also said they would deliver a hundred thousand tons of gear, and thousands of construction men direct to the sites, using the largest airlift since the Berlin one. And before the critics could retort: "How? There are no airfields there!" they replied: "We'll build the necessary airfields large enough to take the biggest airfreighters."

The project was to cost £120,000,000 and it swung into motion as a joint Canadian-U.S. venture in 1954. In April of that year a leathery-faced character, Ernie Boffa, lifted his little bush-plane off the runway at Yellowknife, on the edge of Canada's barren lands and flew "North". His job was to find likely sites for the airfields. No one knew the topography of Arctic Canada better

than Ernie, for after a lifetime of bush flying there he carries its main icy contours in his mind. Boffa found suitable sites.

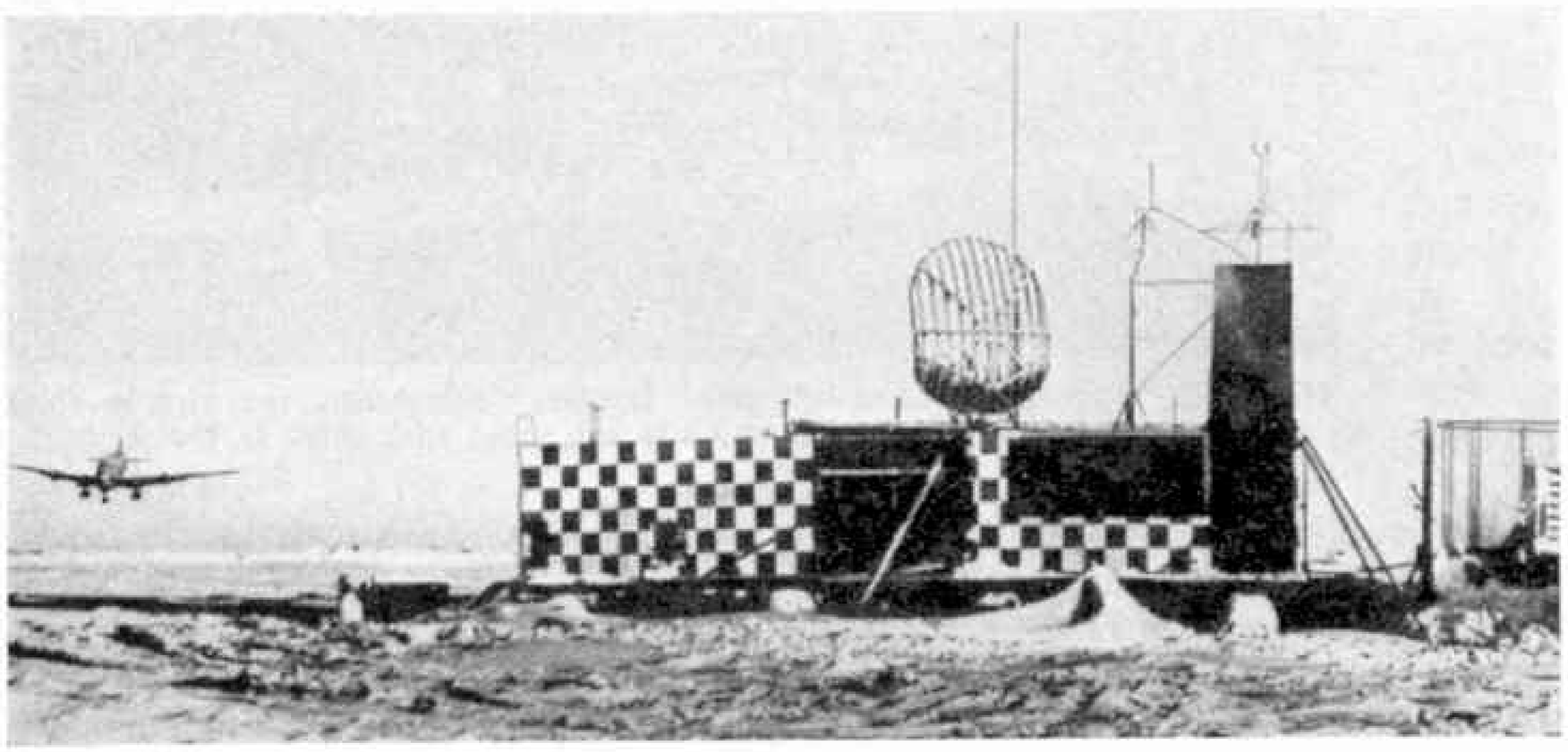
As he found sites and reported back by radio light planes took off for the key ones. Men and materials were landed, or dropped by parachute, and immediately landing-strips had been levelled, freighters like the DC 3 put down with engineers, and with builders and materials for constructing the radar stations and extending the airstrips.



Ernie Boffa, an outstanding bush pilot based on Yellowknife, in the North-West Territories of Canada.

Soon fleets of aircraft, from a *1933* single-engined Junkers to the huge C 119s, were operating shuttle services to the sites from four main supply bases. These were Port Churchill on Hudson Bay, Edmonton in Alaska, Whitehorse in Yukon Territory and Fairbanks in Alaska.

Advance supply bases were established roughly speaking at each end of the "Line" and at its middle point, one of them on the flat ice covering the Polar Ocean itself. From them yet more men and gear were airlifted to remote sites, even islands locked in the ice of the Arctic Ocean.



Site X, on the Distant Early Warning Line.

Mining men watched with satisfaction as "the Line" grew longer, because Arctic Canada and Alaska are immensely rich in almost all the minerals. In their pre-Cambrian rock lies, among other wealth, the world's largest iron-ore deposits and the second largest uranium deposits, the most extensive asbestos deposits anywhere, and unlimited tons of all the base metals; also gold, copper, tungsten and so on, with the water power necessary to their development.

With no roads or rails because of the rough terrain and the vast distances this wealth was, with a few exceptions, beyond practical reach. Then the Dew Line came into being. Mining men saw its airfields as the key to the natural resources of the Far North.

Meanwhile a major fleet was steaming northward with more supplies. Over the centuries far-seeing sailors like Franklin sought a marine route between the Pacific and the Atlantic via the Arctic. They called this mythical route the North-West Passage, and in their search for it they lost many ships to the crushing pressures of the polar pack and many lives to hunger and hazard.

Now, however, sixty ships were heading towards these same waters. Led by the great ice breaker H.M.C.S. *Labrador*, one squadron of merchantmen sailed up Canada's eastern coast, through a fabulous world of pack ice, towards the eastern end of "the Line".

Another fleet, led by the ice-crushing bows of American naval ice breakers, sailed up the coast of Alaska towards "the Line's" western extremity.

The Canadian North covers about half the total area of the United States. Its total permanent population is only 20,000 including Eskimos, Indians and Whites. The construction men aboard these fleets brought the total on Dew Line work to only five thousand less than the total population of the Canadian North!

In addition hundreds of men were sent "North" to build a supply road from Fairbanks, road and rail junction for Alaska, across a thousand miles of almost uninhabited territory, subject to 100 deg. F. of frost in winter, to Aklavik, a forward supply base for the Dew Line. After all, it is on the great Mackenzie River, a supply artery for the Canadian North, and it is the terminus for Canadian Pacific Airlines' polar schedules. Without the outside world being any the wiser, Pacific Western Airlines extended its freight-passenger schedules along Canada's Far Northern coast—using the airfields built for the supply of Dew Line sites.

It was 1956 now. The Line was to be completed by 31st July, 1957. The pace was stepped up. Many planes were lost. But the airlift, mounted by the U.S.A.F., the R.C.A.F., and American and Canadian civil airlines, continued even during the bitter blizzards and frozen fogs of the months-long winter night. Men were injured, killed—or lost. They received fabulous wages—£90 a week, all found. But they had to face frostbite, seven-days-a-week hard labour and loneliness of a kind that saps a man's mind so that he may go off his head.

This is just what happened at one 'site'. One of the men, a tough looking character, grew morose. Then one night, wild-eyed, he walked from the base hut into the blizzard—and failed to return; and "one of the guys who went lookin' for him failed to return—perhaps a bear got him, perhaps it was the cold. . . ."

But every day the work progressed. While aircraft droned over the white wilderness with more men and supplies, Wellsian aluminium domes with questing antennæ rose above the cold-cracked rock and frozen muskeg or bog. They were the first radar installations. And then, there came from Ottawa an announcement that the Distant Early Warning Line was in operation. The date? 31st July, 1957.

Not one of the 57 U.S. ships that forced its way to the Dew Line had escaped damage at the hands of the pack ice. A civilian "bush" airline, operating across the Canadian Northlands, had gone out of operation because of lost aircraft. Many of the 15,000 men on Operation Dew Line had suffered hurt. But "the Line" was completed. A gap in the defences of North America had been plugged, and—equally important—the foundations had been laid for a veritable air network across vast stretches of minerally rich Arctic Canada and Alaska.

Part of a radar station on the D.E.W. Line in the extreme north of Canada.

In the meantime, another radar "line" had been completed. It is called the Mid-Canada Line, and its construction followed the general pattern of its more northerly neighbour, except that helicopters were used in the early stages. Today its airfields, like those of the Dew Line, are serving to develop truly huge areas once beyond reach of all but well-found expeditions.

The Dew Line Air Routes span the furthest corners of the Canadian North, corners once beyond reach except by small bush planes, canoe, dog-teams, tractor-hauled sledges and by (Cont. on page 456)

Air News

By John W. R. Taylor

Bloodhound in Service

News that Britain's first surface-to-air guided missile, the Bristol/Ferranti Bloodhound, has started its service trials at the R.A.F. Station at North Coates in Lincolnshire reflects great credit on its designers, who entered the missile business after their competitors.

One advantage of the late start is that they were able to make use of all the newest ideas, and Bloodhound is powered by two Thor ramjets which give it a much longer range than if it were rocket-powered.

It is a comparatively small weapon, only 25 ft. 3 in. long and with a wing span of 9 ft. 3 in. So when Bristol wanted to exhibit one recently at the NATO air displays held at Liege in Belgium and Soesterberg in Holland, they had no difficulty in flying it to the Continent on its transport and loading trolley inside the huge freight-hold of an R.A.F. Beverley.

Already there are signs that Bloodhound will prove as popular with foreign customers as the Bristol Freighter and Britannia aircraft which preceded it, because it is to be built under licence in Germany to equip the Federal German forces.

World's Greatest Air Show

September is the month in which the Society of British Aircraft Constructors puts on its annual flying display and exhibition. This year the show will be bigger and better than ever, with the products of some 350 companies displayed inside and outside the big exhibition tent, including guided missiles of all kinds, complete with their ground equipment.

The 40 aircraft flown each afternoon by Britain's finest test pilots will include such world-beating types as the 1,500 m.p.h. English Electric P.1B interceptor, Comet 4 jet-liner, Blackburn N.A.39 naval strike aircraft and Fairey Rotodyne vertical take-off air liner. A Canberra U.Mk.10 pilotless target 'plane may fly past under radio control from the ground or another aeroplane.

As in previous years, the R.A.F. and Fleet Air Arm will take part on a large scale, and we can expect plenty of thrills from the famous Hunter aerobatic team of No. 111 Squadron. So don't forget—the dates are Friday, Saturday and Sunday, 5-7th September, and the place Farnborough Aerodrome in Hampshire.

* * * *

An order for nine Vickers Viscount 745D turboprop air liners for Northeast Airlines of Boston, U.S.A., has brought sales of this superb British aircraft to the 400 mark. The total value of the 400 Viscounts is £156 million.

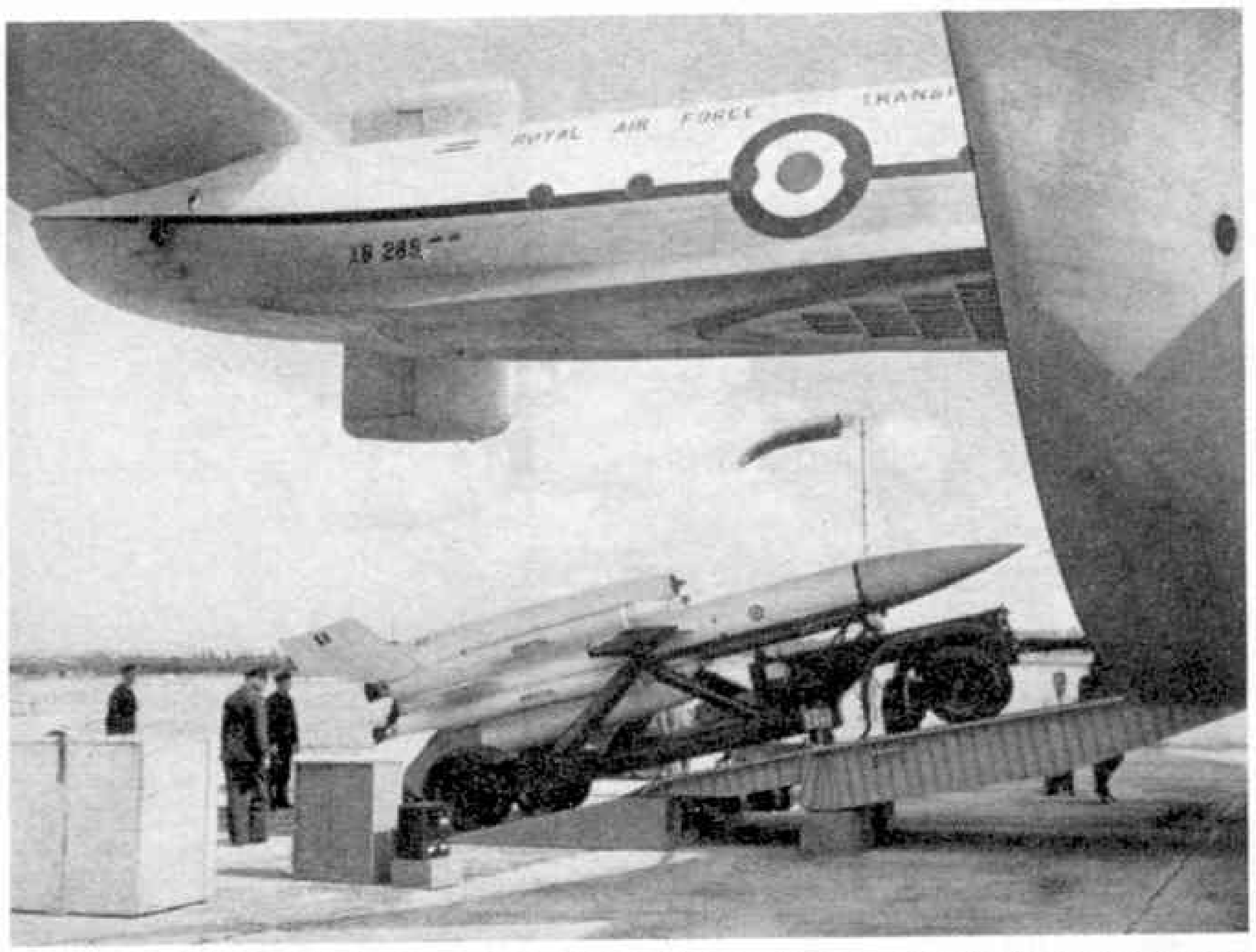
B.E.A.'s Helicopter Plans

British European Airways have received Government approval to operate a helicopter passenger service linking the newly-opened Gatwick Airport—and later Southend—with London Airport. The idea is to save time and trouble for passengers who have to change airports as well as air liners; and it gives a further indication of the growing importance of Southend, which is likely to become London's third airport before long.

More Cops in 'Copters

Indiana is the latest American State to use a Bell Model 47 helicopter for police duties, and motorists who drive faster than they should along its roads will be well advised to keep their eyes skinned for a patrolling "whirlybird".

For some years, sections of these roads have been marked with stripes one-eighth of a mile apart, to enable police pilots in lightplanes to clock the speed of cars travelling below. For example, a car that took six seconds to drive between two strips would be travelling at 75 m.p.h., and its driver would soon find himself booked for speeding. One Indiana flying policeman caught more than 1,200 offenders in this way in a single year, and now that lightplanes are being replaced by more manœuvreable helicopters, the motorists will stand even less chance of escaping detection.



The Bristol/Ferranti Bloodhound, Britain's first surface-to-air missile, being hauled aboard a Beverley aircraft of R.A.F. Transport Command, en route to NATO air displays in Belgium and Holland.

Ring-wing Vertical Riser

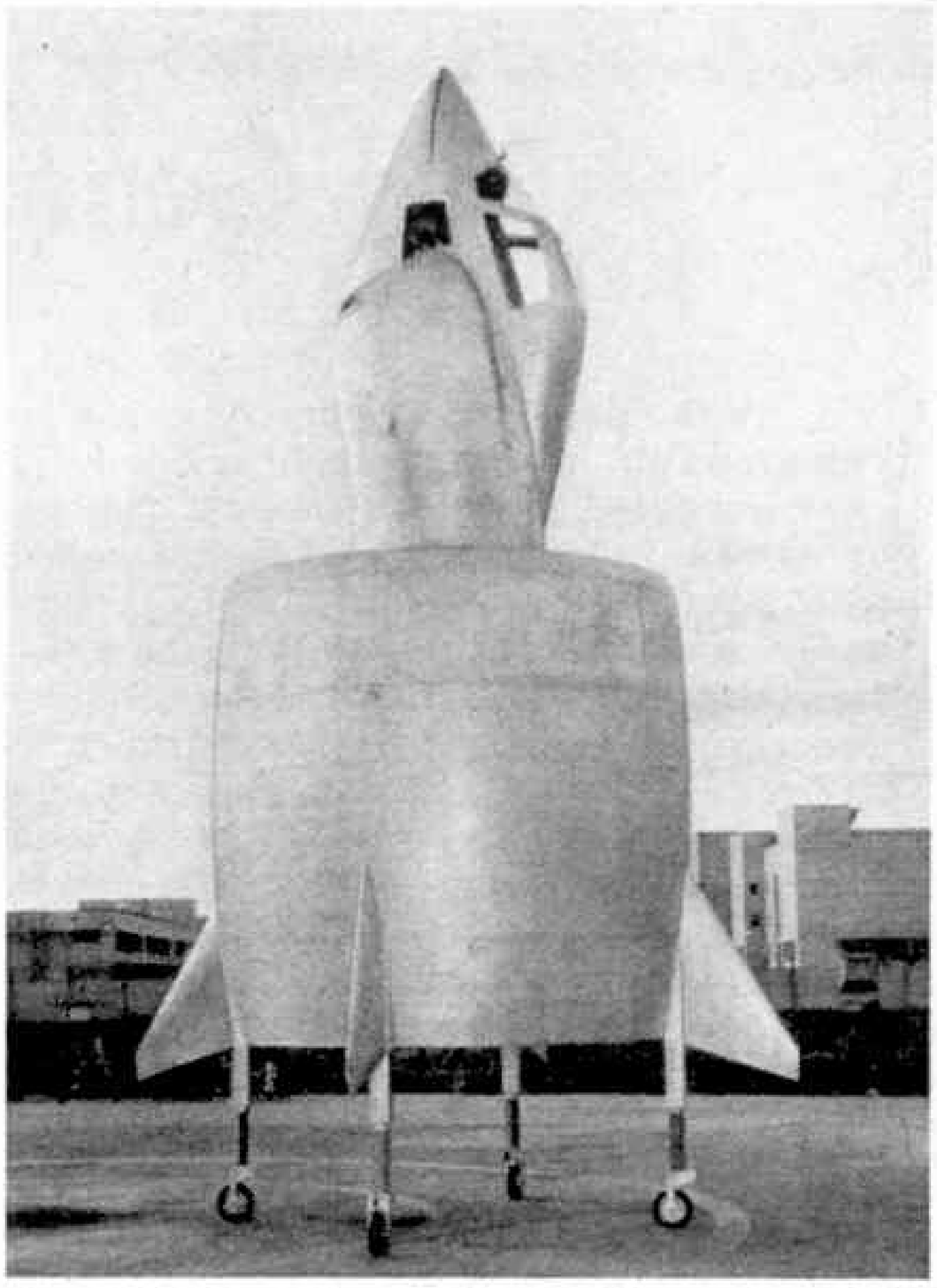
Aircraft are certainly not getting more beautiful now that designers are concentrating more and more on types that will take off vertically or in very short distances; and photos of two very strange beasties arrived on my desk by the same post recently.

One showed the new coleopter built by the French SNECMA company and appears on the next page. At first sight it looks like anything but an aeroplane; yet it may set the fashion for future high-speed fighter, reconnaissance and ground attack aircraft.

Its development began with the Flying Atar research machine, described in the August 1957 *M.M.* This was simply an Atar turbojet mounted vertically on a stalky four-wheel undercarriage, and with a seat

and controls for the pilot on top. It raised itself off the ground by direct jet lift, like the Rolls-Royce "Flying Bedstead"; and the new coleopter is very similar, except that an annular (ring-shape) wing has been added and the pilot now has a proper enclosed cockpit.

The coleopter will take off vertically for the simple reason that the upward thrust of its jet engine exceeds its loaded weight. At a safe height it will arch over into normal horizontal flight and its annular wing will then support it just like an ordinary horizontal wing. The advantages of the ring shape are that it keeps the dimensions of the aircraft small, can be made immensely strong and light in weight, and offers high manœuvrability.



The SNECMA Coleopter, fitted with an Atar E jet engine, is ready to undergo its first flight tests with its pilot, Auguste Morel.

Westland's Flying Crane

Second of the new vertical take-off aircraft is the Westland Westminster, which is competing with the Fairey Rotodyne for a big B.E.A. order. The winner might well operate a high proportion of all B.E.A. services on routes up to 400 miles long by the mid-sixties, halving the journey time in many cases by flying from city-centre heliports.

The prototype Westminster flew for the first time on 15th June last. It does not look much like an up-to-the-minute air liner for 46 passengers; but there is a reason for this.

To get the all-important engine and rotor system into the air quickly, Westland mounted them on the simplest possible type of welded steel-tube fuselage. When flight tests have proved the soundness of the power system, they will replace the existing fuselage by a proper air liner-type cabin and the Westminster will be ready for service. What is more, with the present kind of cheaply-built lightweight steel-tube structure, the aircraft could be used as a flying crane, carrying heavy loads slung under its fuselage.

Like the Rotodyne, the Westminster is powered by two Napier Eland engines, mounted above its cabin. It weighs nearly 14 tons, with a rotor diameter of 72 ft., and fuselage length of 70 ft., and is intended to operate on ranges up to 400 miles at a cruising speed of 150 m.p.h. Its development time should be speeded considerably by the fact that it uses the well-proven five-blade main rotor and four-blade tail rotor system of the Sikorsky S-56 helicopter.

Major David G. Simons, of the U.S. Air Force, sits in the compact gondola prior to take-off on his record-setting balloon flight. United States Information Service official photograph.

New Height Record

Last month's *Air News* recorded the fact that a Lockheed Starfighter had set up a remarkable new height record of 91,249 ft. But this is not the greatest altitude reached by an aircraft under the regulations governing international aviation records, because the *Federation Aeronautique Internationale* has recently confirmed the record of 101,516 ft., set up by Major D. G. Simons, in a balloon on 19-20th August, 1957.

This reminds us that the absolute height record has been held by balloons for many years. Nor was the latest achievement a mere stunt. Major Simons is a U.S.A.F. aero-medical doctor and the main object of his flight was to discover if men can survive for prolonged periods at great heights, above almost all the atmosphere that shields us on Earth from cosmic rays and other radiation.

To do this, he had to remain sealed in a tiny aluminium capsule eight feet high and three feet in diameter, slung under the big plastic balloon, for 32 hours. Instruments and equipment inside the capsule and attached to his body recorded data that may tell us whether or not human space-flight is possible.

* * * *

The Boeing and Martin companies have been awarded U.S.A.F. contracts to develop a manned space vehicle named the Dyna-Soar, which will be launched like a rocket, go into a satellite orbit, circle the Earth and then land like a conventional aeroplane at a pre-selected airfield in the United States.

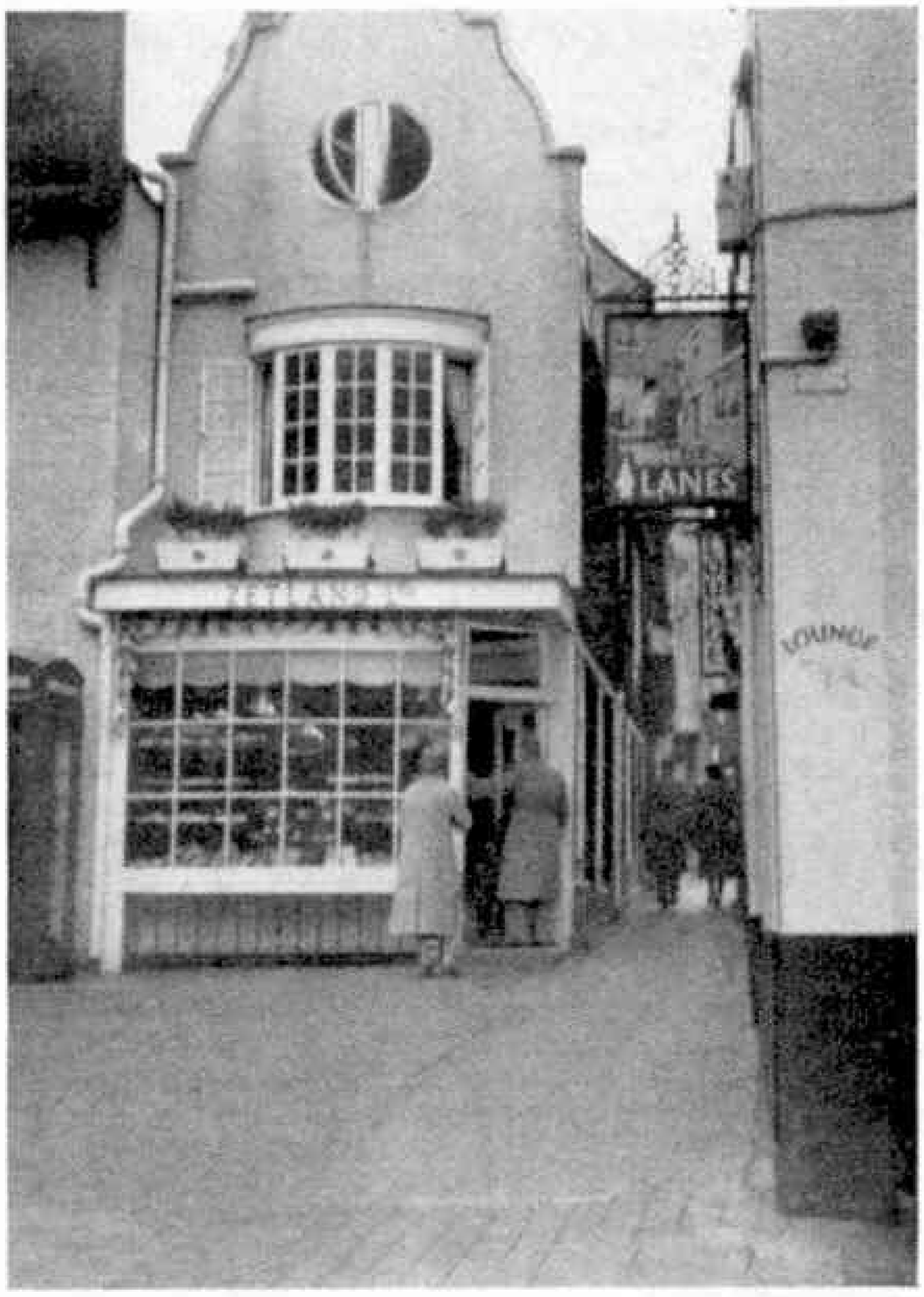
* * * *

British flying boat enthusiasts will suffer a final blow next month when Aquila Airways ceases operations and so brings to an end the last flying boat services from the U.K. For a time there will be no air services to Madeira, but it is hoped to open a land aerodrome on the island in about two years' time.

Of General Interest

YOU will perhaps remember that a photograph of Parliament Street in Exeter appeared in the *Of General Interest* page of the June *M.M.*, and that I asked then if any reader could produce a picture of an even narrower street. Well, this has not exactly happened, but I have received the picture on the right of the entrance to *The Lanes*, Brighton. This appears to be wide enough to allow two people to walk side by side, so Parliament Street seems to continue to be the holder of the title.

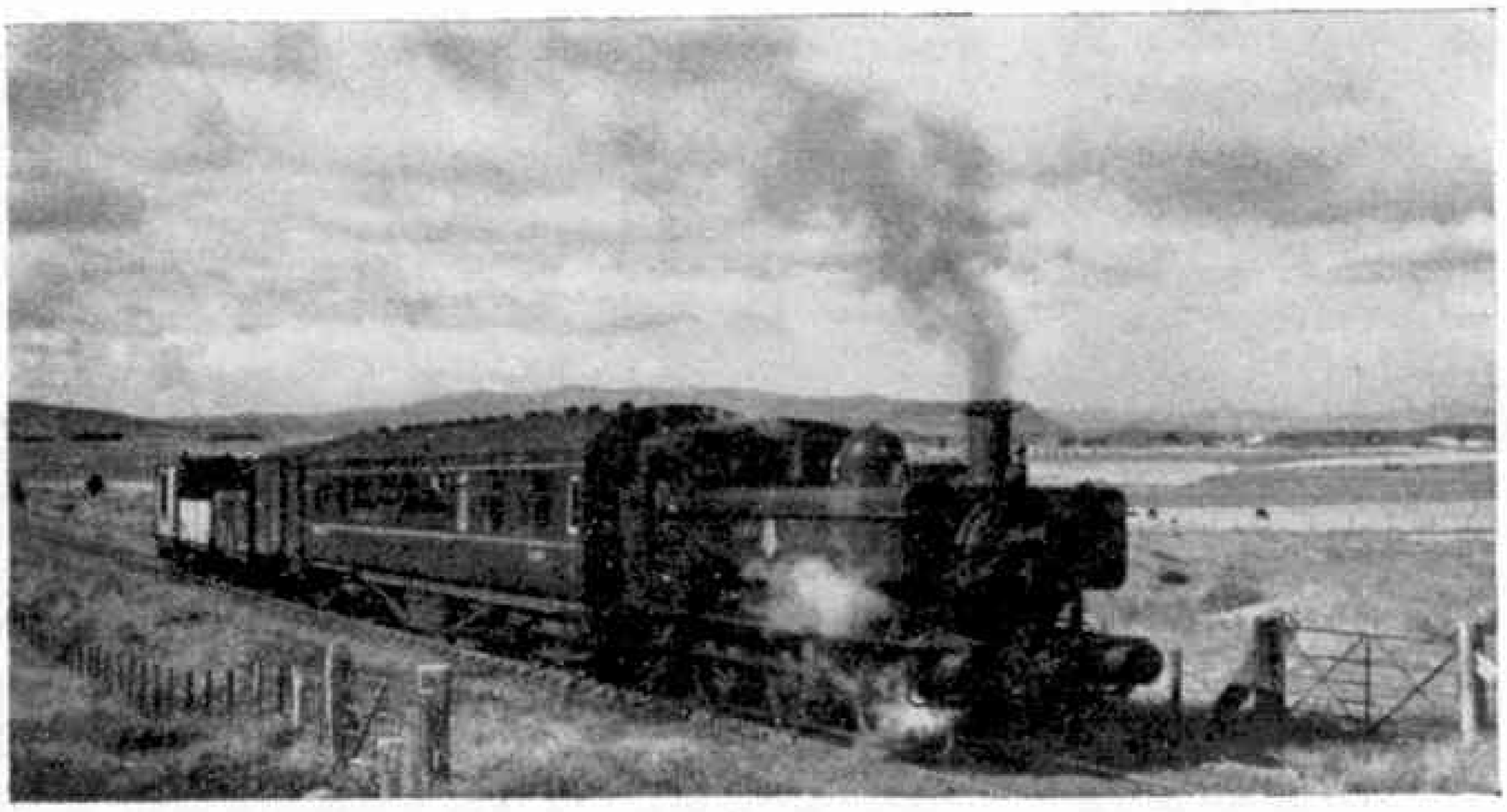
Many of you will have seen the entrance to *The Lanes*, and those of you who have not, and visit Brighton, should go to the Old Steine area, in the centre of that famous seaside resort, where it will be found.



The entrance to "The Lanes", in Brighton. Photograph by B. Croft, Cranleigh.

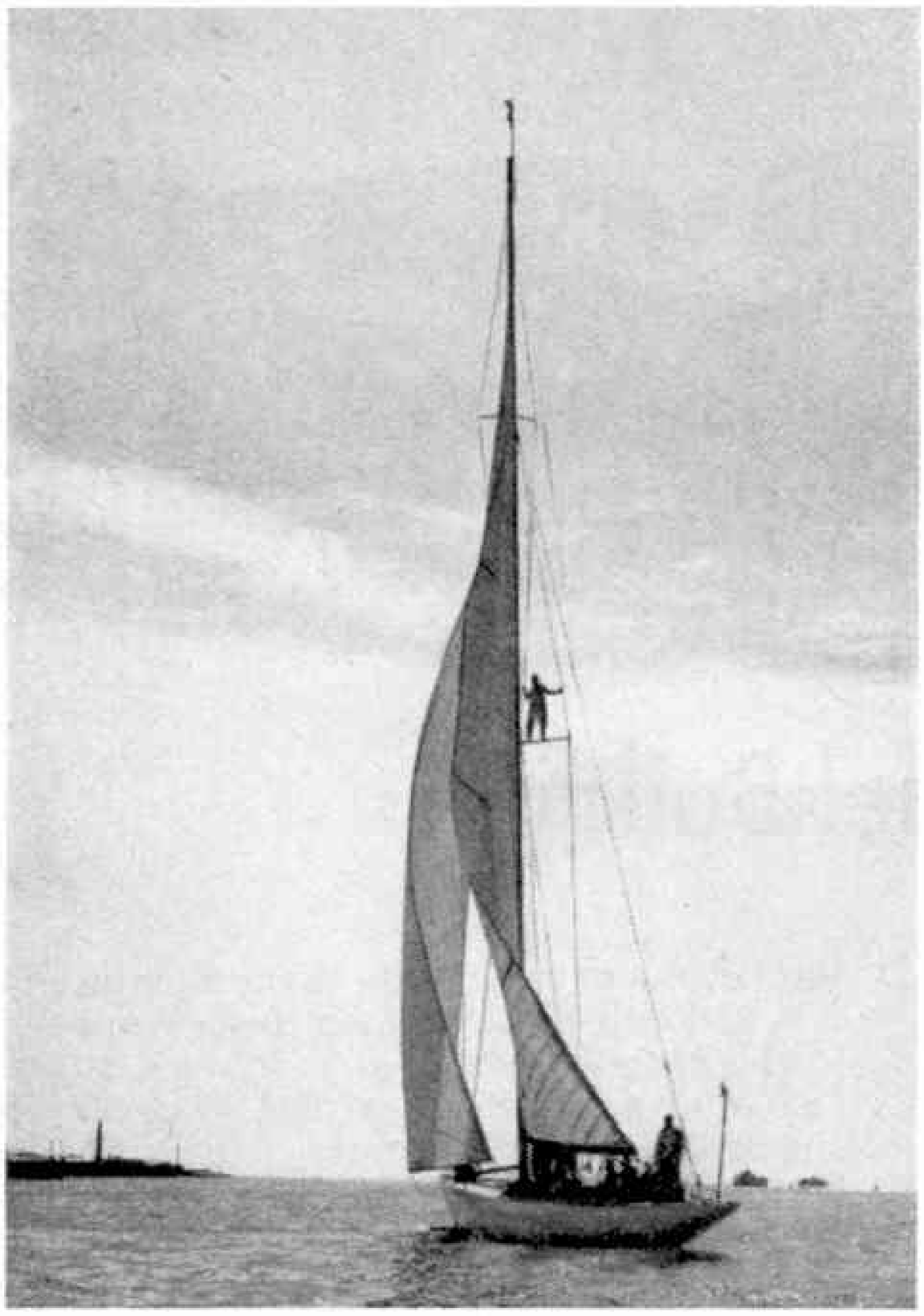
In the lower picture on this page is a scene in the far north of Scotland, on the 7¾-mile railway line between The Mound and Dornoch. The first of these is a station on the former Highland Railway line to Wick and Thurso. Dornoch is a port, on the Firth of the same name, that is served by a branch line on which the last Highland Railway engine to survive continued to work until last year, 34 years after the Highland lost its identity. The locomotive was the 0–4–4 Tank No. 55053, but it was perhaps better known in the district as the Dornoch Puggie.

A remarkable change followed the withdrawal of the Dornoch Puggie last year, for to replace it a Western Region 0–6–0 Pannier Tank, No. 1646, was brought all the way from Wrexham in North Wales. This engine, far from its native haunts, now works the branch regularly, and it has the further distinction of hauling one of the few "mixed trains" that run today in Great Britain. "The mixed train daily" became almost an institution in the remoter parts of the United States, where one train a day on a branch line had to suffice for the carriage of both passengers and goods. There too the number of these trains nowadays is declining.



A Western Region pannier tank hauling a mixed train on a branch line of the former Highland Railway. Photograph by C. Lawson Kerr, Glasgow.

MECCANO MAGAZINE



"Sceptre", the challenger for the America's Cup, returning to Gosport Harbour after trials.

Junior Section

WHEN does a new year begin? The one starting on 1st January is a calendar year, and started officially or legally on that day for about 200 years.

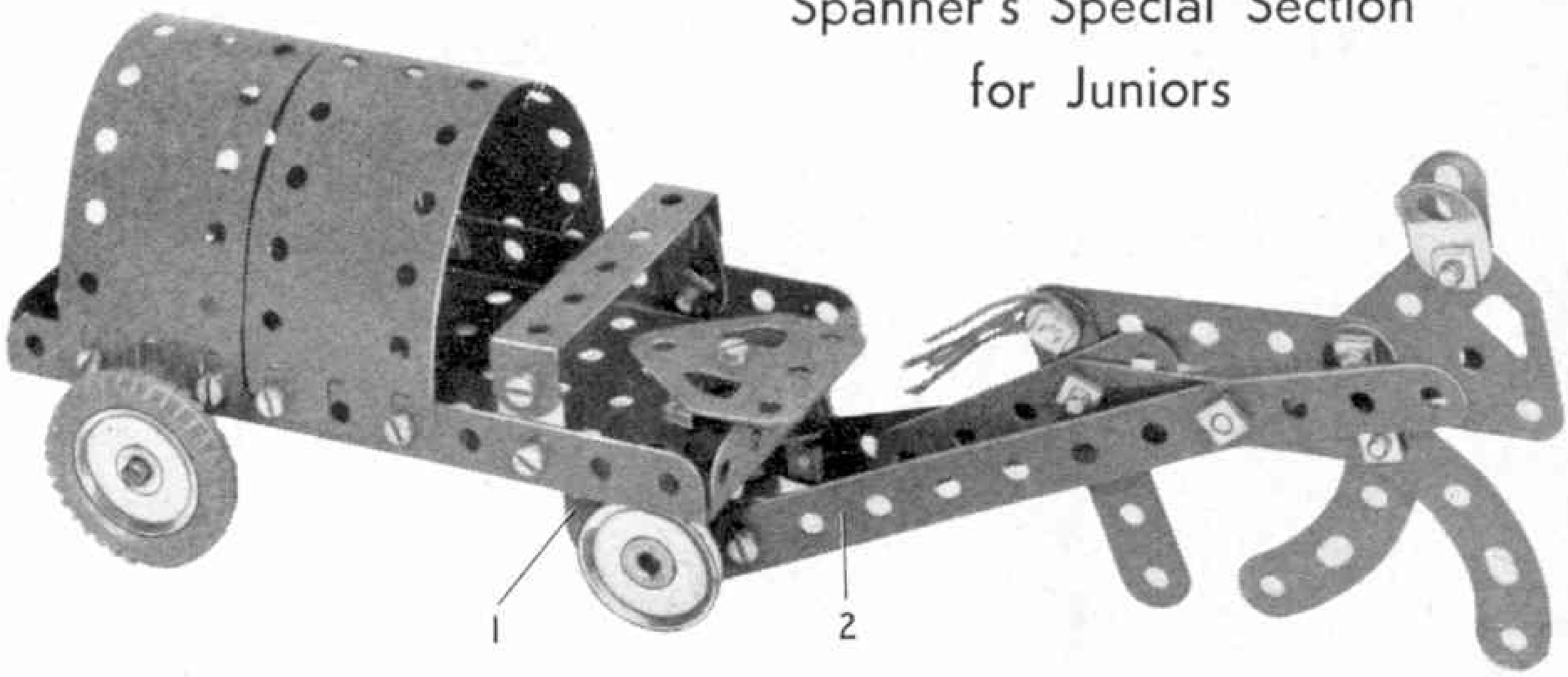
A new year for any one of you could start at many different times. One is your birthday, and that really might mean something—presents, anyway. I have always thought of September as the beginning of a new year for the simple reason, which some of you might find very sad, that it was during September that I returned to school after the Summer holidays.

Many of you will be doing this now. I am not going to preach to you about it, although this would be a good opportunity to instil into you that you should work hard in the new school year that you are beginning! That you should, of course, goes without saying, because unless you really do try, not only to get along with lessons, but also to learn how to think and do things for yourself, you may not get very far.

If you really *think* about all that you do now, you may rise to great heights in the coming year and in after life. And after all, everybody has some ambitions. Look at the member of the crew of the *Sceptre* in the picture of this 12-metre yacht on the left. Exactly what he is doing there, perched high in the rigging, I do not know, but he certainly has achieved something, and I hope that all of you during the school year now beginning will take some decided steps towards achieving your ambitions.

Billy Hall, of Sutton Coldfield, looking very smart in fancy dress.

Spanner's Special Section for Juniors



Easy Model-Building

Fig. 1. Owners of Outfit No. 1 on the look-out for a novel subject for their next model will find the Ox and Covered Wagon illustrated above an easy one to assemble.

Ox and Covered Wagon

The two models I am describing this month are a novel Ox and Covered Wagon (Fig. 1) for Outfit No. 1 and an Engineers' Lathe (Figs. 2 and 3) which can be built from parts in Outfit No. 3.

The base of the Covered Wagon is a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate, and the driver's seat is a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip bolted at each end to a Fishplate fixed to the Flanged Plate. A Flat Trunnion is bolted to an Angle Bracket fixed to the front end of the Flanged Plate. Two $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates bolted side by side to the Flanged Plate form the wagon cover.

The rear wheels are 1" Pulleys with Tyres, and are mounted on a Rod passed through the lugs of a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip bolted underneath the Flanged Plate.

Two Trunnions are placed together so that the holes at their points overlap, and a $\frac{3}{8}''$ Bolt is then pushed through the holes. A nut is tightened down on the Bolt to hold the Trunnions securely together. The shank of the Bolt is then passed through the second hole from the front in the middle row of holes in the Flanged Plate, and is fitted with two nuts locked tightly together. One of the Trunnions is marked 1 in the illustration.

A 2" Rod passed through the centre holes in the flanges of the two Trunnions carries the front road wheels of the Wagon. In the front end holes in the flanges of the Trunnions two $5\frac{1}{2}''$ Strips 2 are bolted to form the shafts.

The body of the ox consists of two $2\frac{1}{2}''$ Strips, and his rear legs also are $2\frac{1}{2}''$ Strips. The front legs are $2\frac{1}{2}''$ stepped Curved Strips and his head is a Flat Trunnion to which two Fishplates are bolted, in the positions shown, to form the ears. The Fishplates are splayed out slightly. A tuft of cord for the tail completes the animal.

A list of the parts required to build this model is given at the end of this article.

Engineers' Lathe

Owners of an Outfit No. 3 or one larger will find the Engineers' Lathe shown in Fig. 2 an interesting model to construct. Its base is a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate 1 to each side flange of which are bolted a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ and a $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate. The $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Plates are joined together by a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 2 and are edged by a $2\frac{1}{2}''$ Strip 3. To the top edges of the $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates a second similar Plate 4 is bolted on each side of the machine and a

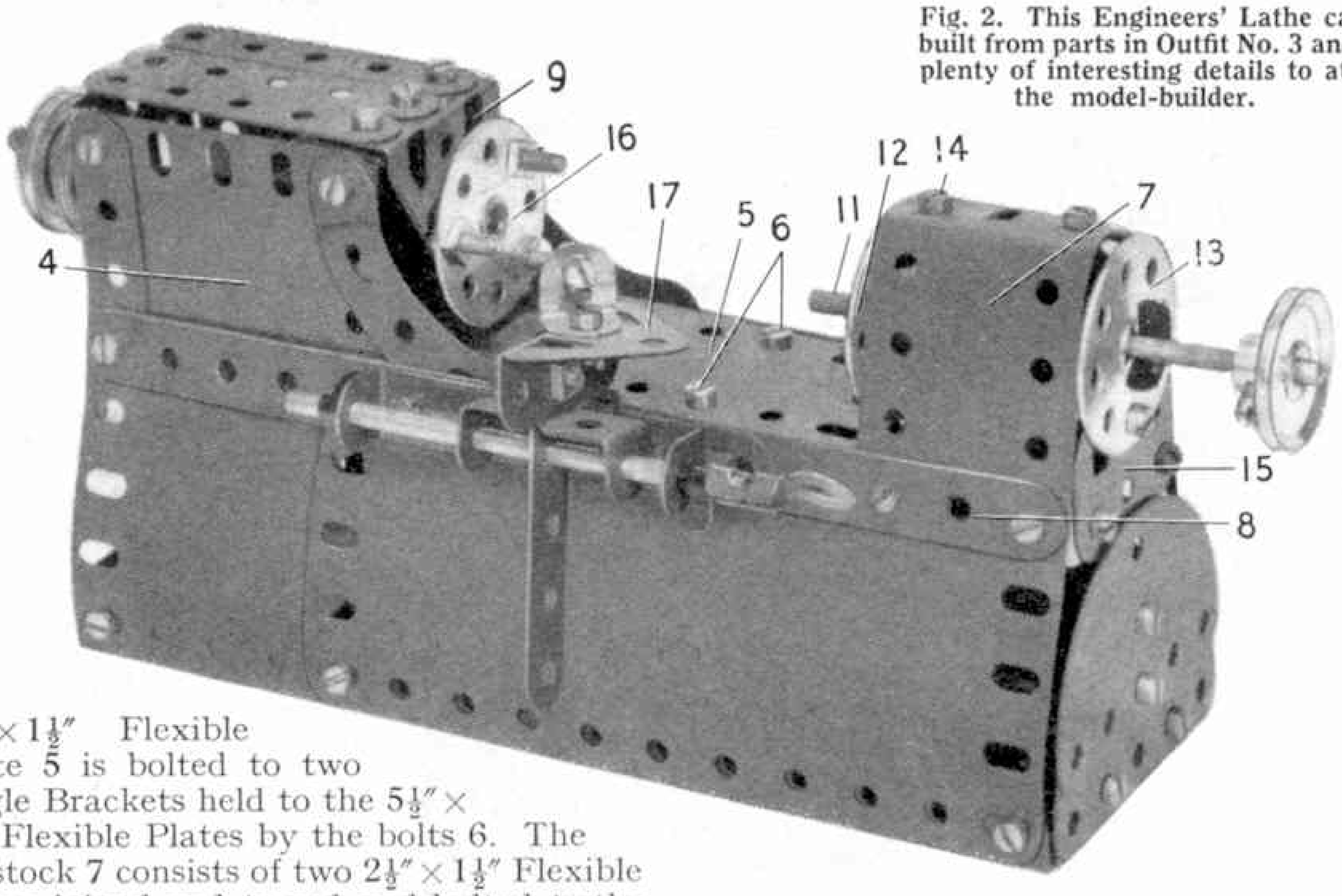


Fig. 2. This Engineers' Lathe can be built from parts in Outfit No. 3 and has plenty of interesting details to attract the model-builder.

$5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate **5** is bolted to two Angle Brackets held to the $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates by the bolts 6. The tailstock **7** consists of two $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates joined end to end and bolted to the upper edges of the $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates. Two $5\frac{1}{2}''$ Strips **8**, overlapped, are bolted along the upper edges of the $5\frac{1}{2}'' \times 2\frac{1}{2}''$ and $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates as shown. The headstock **4** is completed by bolting a Trunnion **9** at the front end to Angle Brackets fixed to the Plates 4. At the rear end a Flat Trunnion **10** is similarly supported. The top of the headstock housing consists of three $2\frac{1}{2}''$ Strips bolted at one end to the Trunnion 9.

The tailstock centre is formed by a $3\frac{1}{2}''$ Rod **11**, which is journalled in two Wheel Discs **12** and **13** and is fitted with a hand-wheel consisting of a 1" Pulley. Disc **12** is bolted to an Angle Bracket and held by Bolt **14**, and Disc **13** is fixed to a Flat Trunnion **15** bolted to two Angle Brackets fixed to the sides of the machine.

The tailstock end of the base is filled in by two Semi-Circular Plates bolted to the end flange of the $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate.

The face plate **16** is a Bush Wheel fitted with three $\frac{3}{8}''$ Bolts, and it is mounted on a 4" Rod journalled in Trunnion 9 and Flat Trunnion 10. At its rear end this Rod carries a $\frac{1}{2}''$ loose Pulley, which is mounted between two 1" fixed Pulleys.

The tool rest is a Trunnion **17**, the flange of which is bolted to the lugs of two Reversed Angle Brackets. The latter slide on a $3\frac{1}{2}''$ Rod passed through the lugs of a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip bolted to the side of the lathe base as shown. The Rod is held in place by Spring Clips and at one end carries a Rod and Strip Connector. The cutting tool is represented by a $\frac{3}{8}''$ bolt fixed in an Angle Bracket bolted to the Trunnion 17.

The parts required to build the model Engineers' Lathe are as follows: 4 of No. 2; 8 of No. 5; 2 of No. 11; (Cont. on page 456)

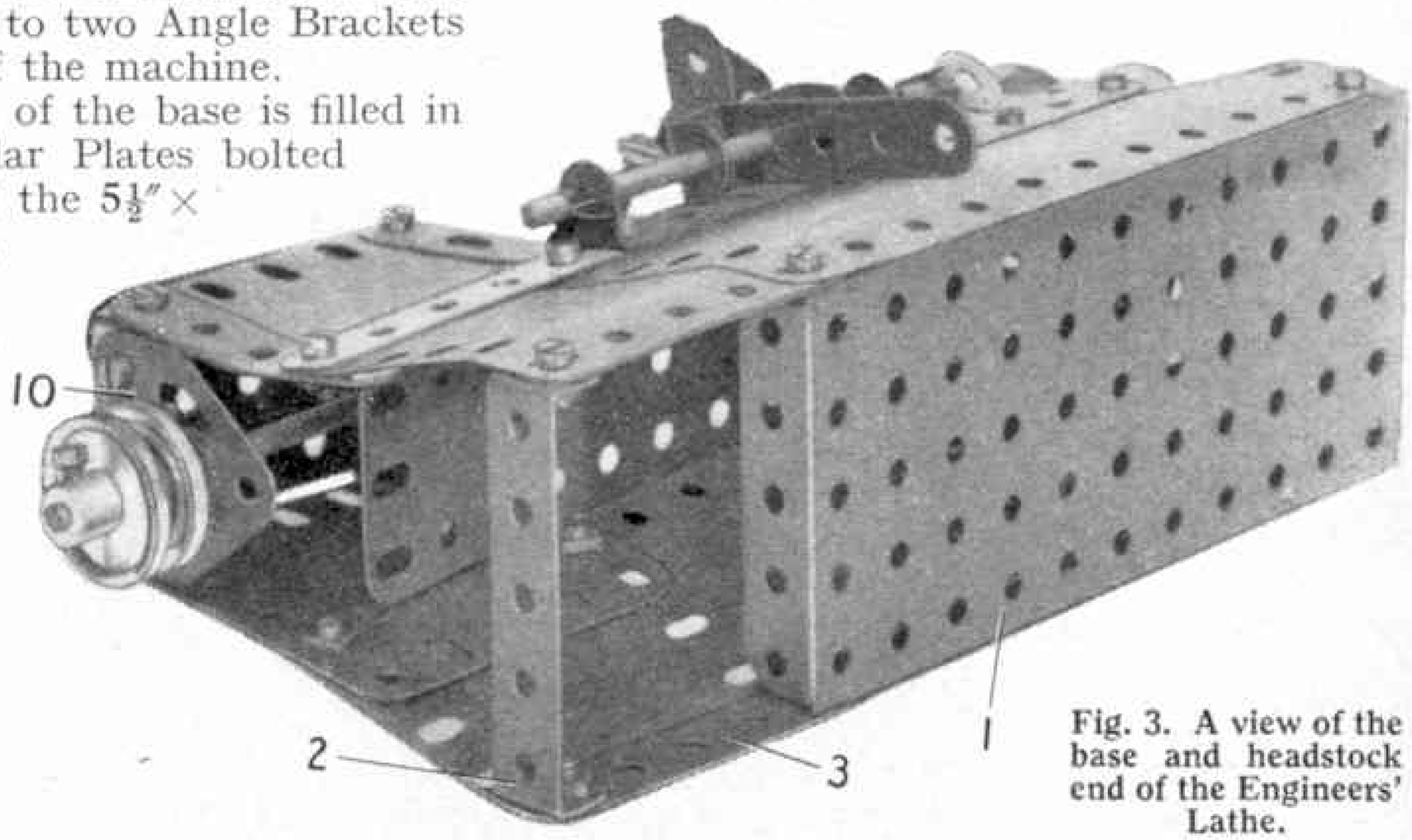


Fig. 3. A view of the base and headstock end of the Engineers' Lathe.

DINKY TOYS

By **THE TOYMAN**

More Good News!

I EXPECT that summer holidays are now over for most of my readers, and hope that all of you who have returned home will have enjoyed a really splendid time. But there will be others who are taking a late holiday and will still be looking forward to the joys of the seashore or the countryside. Wherever their destination may be, I trust that they too will realise all the fun and pleasure I am sure they are anticipating—and that the weather will be all they could desire.

Those who are now back home will be looking forward to renewing their Dinky Toys activities and continuing with the building up of their collections. I am sure, therefore, that they will be very pleased to know that the Dinky Toys range has been extended this month by the addition of very attractive and finely-detailed models of two famous German and American cars. The German representative is a beautifully-modelled miniature of the Porsche 356A, a high-class rear-engined sports car of quite distinctive styling. The exterior appearance of the Porsche cars has changed very little over the past few years, and their speed and reliability in international events is a byword for 1½-litre cars. All the Porsche models have horizontally opposed 4-cyl. engines and Snyder type steering gear.

There are many enthusiastic Club Members in Northern Rhodesia, and none is more proud of his connection with the Club than Ross Speirs, who lives at Lusaka.

The new model of this attractive car is Dinky Toys No. 182, which is fitted with glazed windows and windscreen, and is available in two different colour finishes. In one scheme the body is finished in light blue, with stone wheel hubs and aluminium bumpers and lamps. In the other scheme the body is enamelled light cream. The wheel hubs are bright blue, and the bumpers and lamps

Dinky Toys military vehicles make an impressive convoy in this photograph taken by their owner, Mr. G. Arthur Jones, Shinfield, Reading.

A supply column of Dinky Toys military vehicles meeting fighting units at the battle front. This is another example from Mr. Jones' attractive collection of photographs.

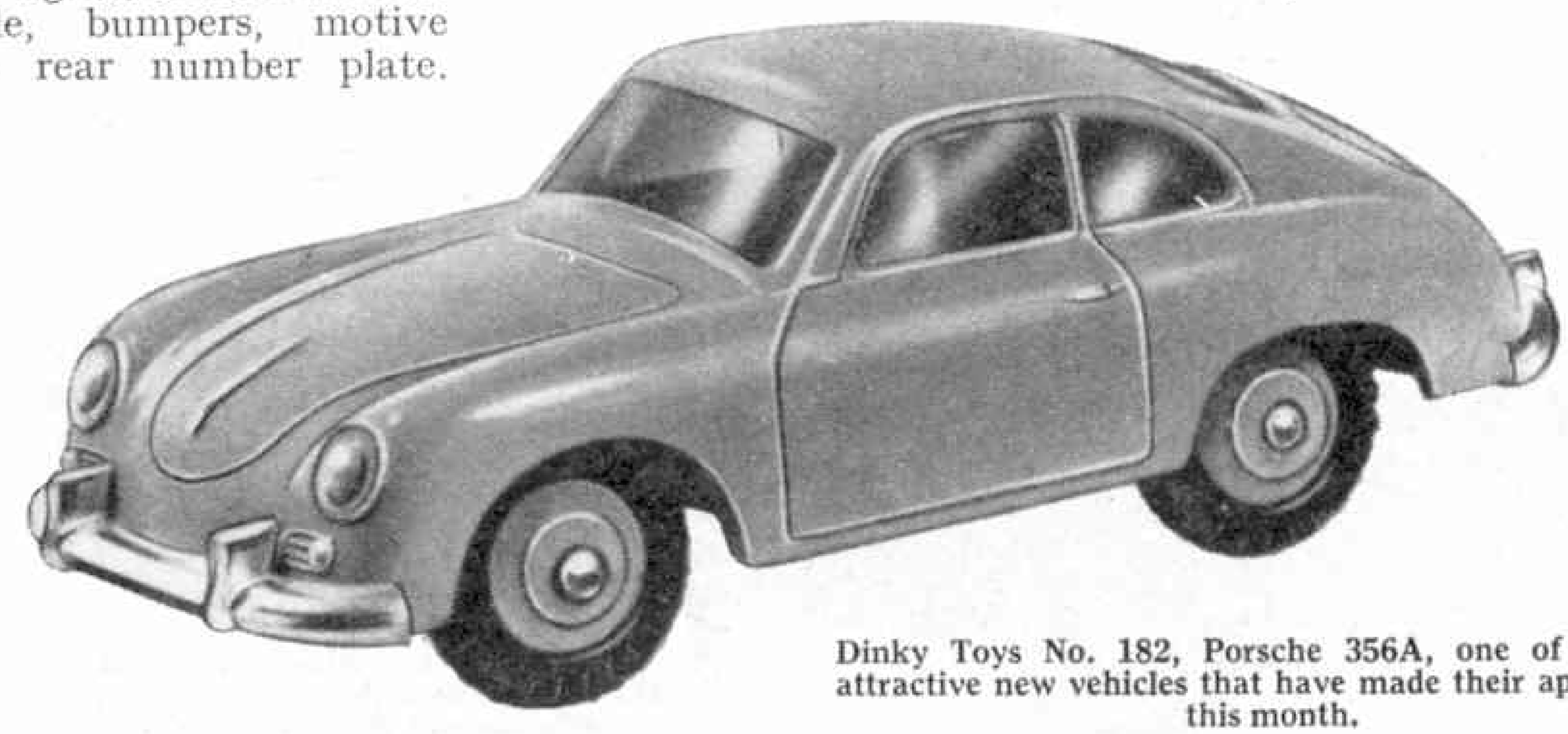
are aluminium. In each case the tyres are black.

The actual American Packard Clipper on which our second new Dinky Toy is based is a 4-door Sedan available in 24 colour schemes! It has a length of 17 ft. 7 in., and a width of 6 ft. 4 in. Its V8 engine develops 275 h.p. at 4,800 r.p.m., and, as customary with many American cars, power steering is fitted.

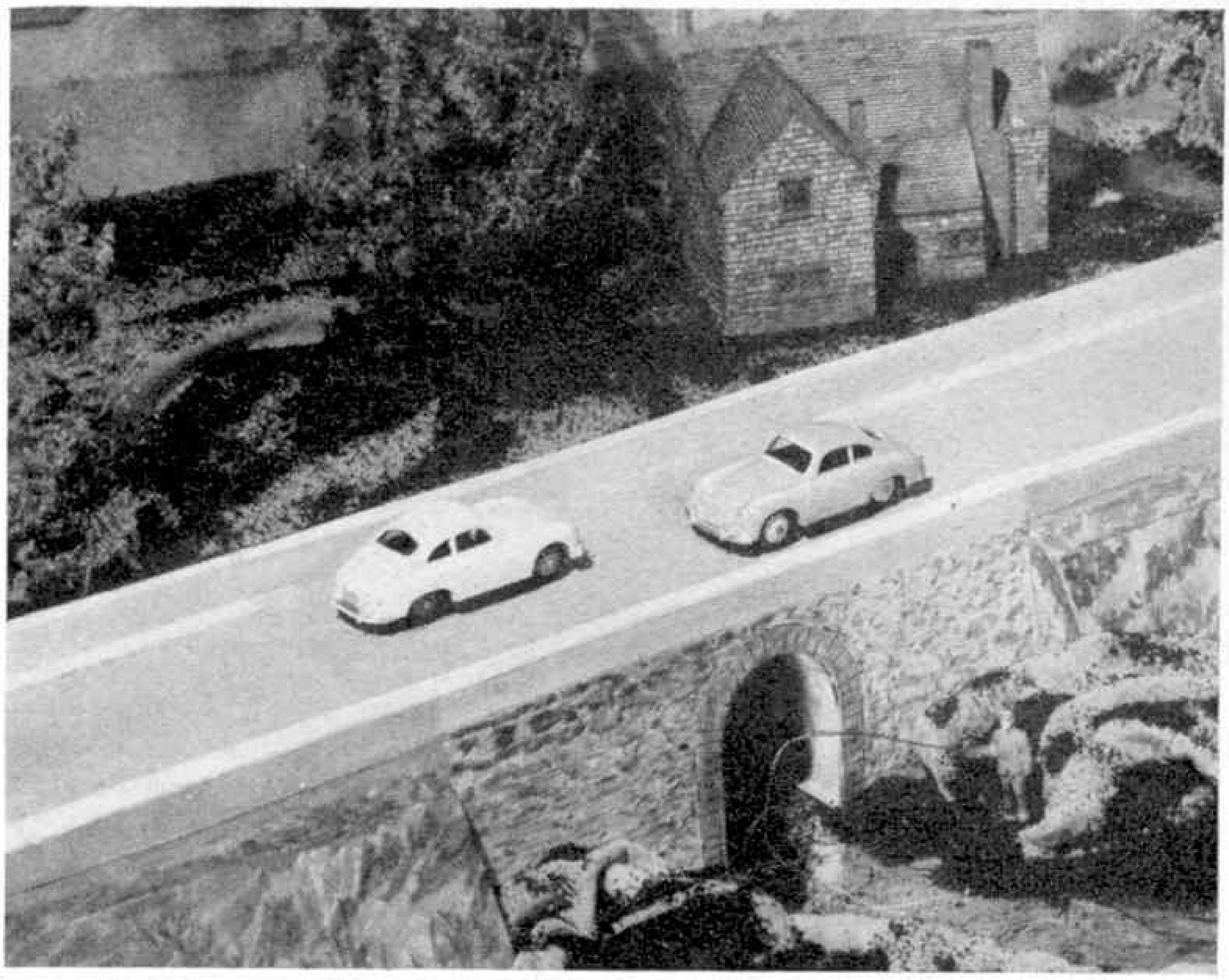
The Dinky Toys model is listed as Dinky Toys No. 180, and it is shown at the foot of page 436. It is one of the largest private cars in the Dinky Toys range and it looks most striking in the unusual and distinctive colour schemes that have been chosen for it. The first of these consists of an orange body with grey top, red rear lights, and aluminium grille, bumpers, motive and rear number plate. The tyres are white. In the alternative scheme the body is stone colour with a red top. This model also has red rear lights and aluminium bumpers, etc. and white tyres.

Many Dinky Toys collectors I know are also keen amateur photographers and two of the pictures I am including this month show how effectively the two hobbies can be combined. I refer to those on pages 434 and 435, which demonstrate splendidly the realism that can be achieved in the photography of items from the Dinky Toys Army Series.

One great advantage in using these subjects as models for photographs is that no elaborate settings are needed. Your own garden will provide all that is



Dinky Toys No. 182, Porsche 356A, one of the two attractive new vehicles that have made their appearance this month.



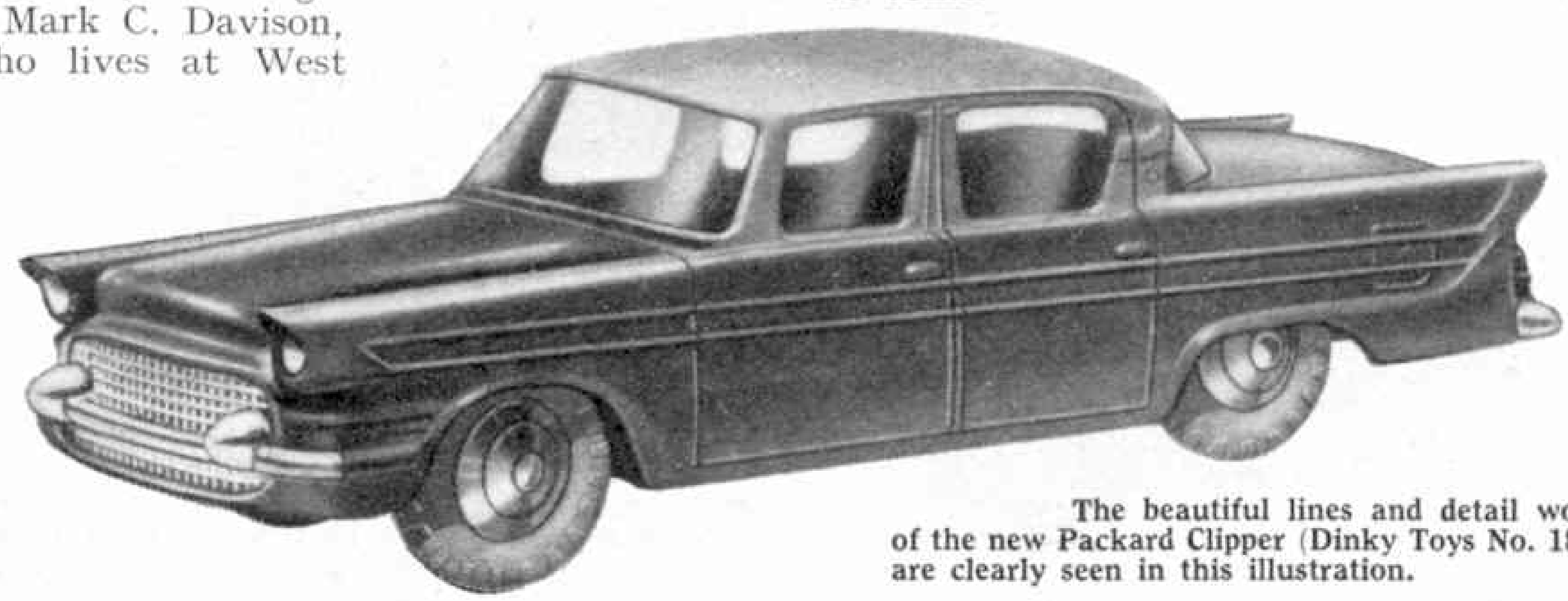
A novel Dinky Toys setting in which two of the new Porsche Cars are seen passing each other on a bridge over a stream. The stream, by the way, is a piece of silver paper.

necessary is the way of background, as can be seen from the two illustrations. The convoy scene was laid out on a garden path, while for the other a grass verge came in handy. Both shots have been taken to give the impression that they were photographed from low-flying aircraft.

These are just two examples of how the Dinky Toys Military Vehicles can be used to produce realistic and interesting photographs, and many a pleasant hour can be spent planning and photographing the many variations it is possible to arrange. The examples reproduced here are the work of Mr. G. Arthur Jones, Shinfield, Reading.

Mark C. Davison, who lives at West Harton, South Shields, a very keen Dinky Toys collector, has compiled quite an interesting little magazine that he circulates among his friends. In it he includes pictures of the latest Dinky Toys and items of news concerning his own collection and those of his friends. He prepares each issue by hand. The pictures he either cuts out of Dinky Toys Catalogues or draws himself.

I recently had the pleasure of seeing a sample of the magazine, and I thought it was a very good effort for so young a boy. Congratulations, Mark. I hope you and your friends will obtain a lot of pleasure from Dinky Toys collecting for many years to come.



The beautiful lines and detail work of the new Packard Clipper (Dinky Toys No. 180) are clearly seen in this illustration.

AND HERE —
— The Special Announcement

FROM the remarkably rapid way in which you have taken up the invitation I gave you last month to write for a Dinky Toys Collector's Licence, it is quite certain that you liked the idea. And I am sure too that you will make splendid use of your Licences in Dinky Toys collecting.

Last month I promised you a special announcement, and it is in bold type in the middle of the page, where you have probably seen it already. But I will come back to that presently. I have something else to tell you first. It is that the earliest request for a Licence came from that famous racing driver, Stirling Moss, who is a very great admirer of the whole Dinky Toys Series, and not only of the motor cars included in it.

I need scarcely tell you that I too have become the holder of a Dinky Toys Collector's Licence, and I am as delighted as I am sure you are that Stirling Moss is one of us!

Applications began to arrive thick and fast from the moment that the first announcement of the issue of the Licences was made, and as yet there are no signs of abatement of the flood. Every owner of a Licence is obviously proud of the fact that he possesses one. This pride is something that will be shared by every Dinky Toys Club member and every individual admirer of Dinky Toys, so if you have not yet obtained your Licence write for one now to the Secretary of the Dinky Toys Club, Binns Road, Liverpool 13. That is all you have to do, and remember too that every owner can have a Licence free, whether he is a member of the Dinky Toys Club or not.

The Licence contains a full list of current Dinky Toys in such a form that it can be made into a register of your collection. This is arranged in convenient sections, one for motor cars, another for motor lorries and so on, and there is a special section for the names and numbers of new Dinky Toys and Supertoys issued during the year for which the Licence is current. Spaces are provided also for dates when you first "spot" any particular Dinky Toy and become its proud owner.

And the Licence is so handy. It is the same size as a motor car driving licence, so that you can always have it in your pocket ready for any call, whether to enter particulars of a new acquisition or to look up a number of any Dinky Toy or Supertoy. The first thing to do with your Licence when you get it is to enter your name and address in block letters on the inside cover and to put your signature in the space provided. Then you are ready to go ahead.

And now read the special announcement —if you have not done so already!

GRAND SURPRISE EVERY MONTH!

For a Dinky Toys Collector's Licence Holder

What greater delight could there be for a Dinky Toys and Supertoys enthusiast than a visit to the Works where these are made, to see the fascinating processes that give them their sturdiness and attractive colouring?

This happy lot will be that of one holder of a Dinky Toys Collector's Licence monthly. On the last day of each month one of the numbers of the Licences issued up-to-date will be selected by Stirling Moss, the holder of the No. 1 licence; and the enthusiast possessing the Licence that carries the selected number will then be invited to come to Liverpool, with his parents, as the guests of Meccano Limited, so that he and they can see exactly how their favourite toys are produced. All expenses, including first-class railway fares, will be met by the firm.

The visitors will stay at one of Liverpool's best hotels and for the whole of a day they will have the freedom of the Works, where they will see also how Meccano, the most famous of all constructional toys, and Hornby and Hornby-Dublo Trains are made, and will meet those who design and produce these famous toys. The visit will indeed be a dream of delight.

The first selection will be made from the numbers of Licences that have been issued up to the end of August. The fortunate owner of the Licence concerned will be informed immediately and arrangements will then be made for the visit at a date convenient to himself and his parents.

"Tommy Dodd" writes about:

Curves and Points

PROBABLY the ideal railway track in any gauge is straight and level. A level track should be easy to secure in miniature, although perhaps not so easy in full size practice, but curves are as necessary in miniature as they are on real railways, because of the limitations of space or perhaps because of various obstacles that we may have to avoid in putting down our railways.

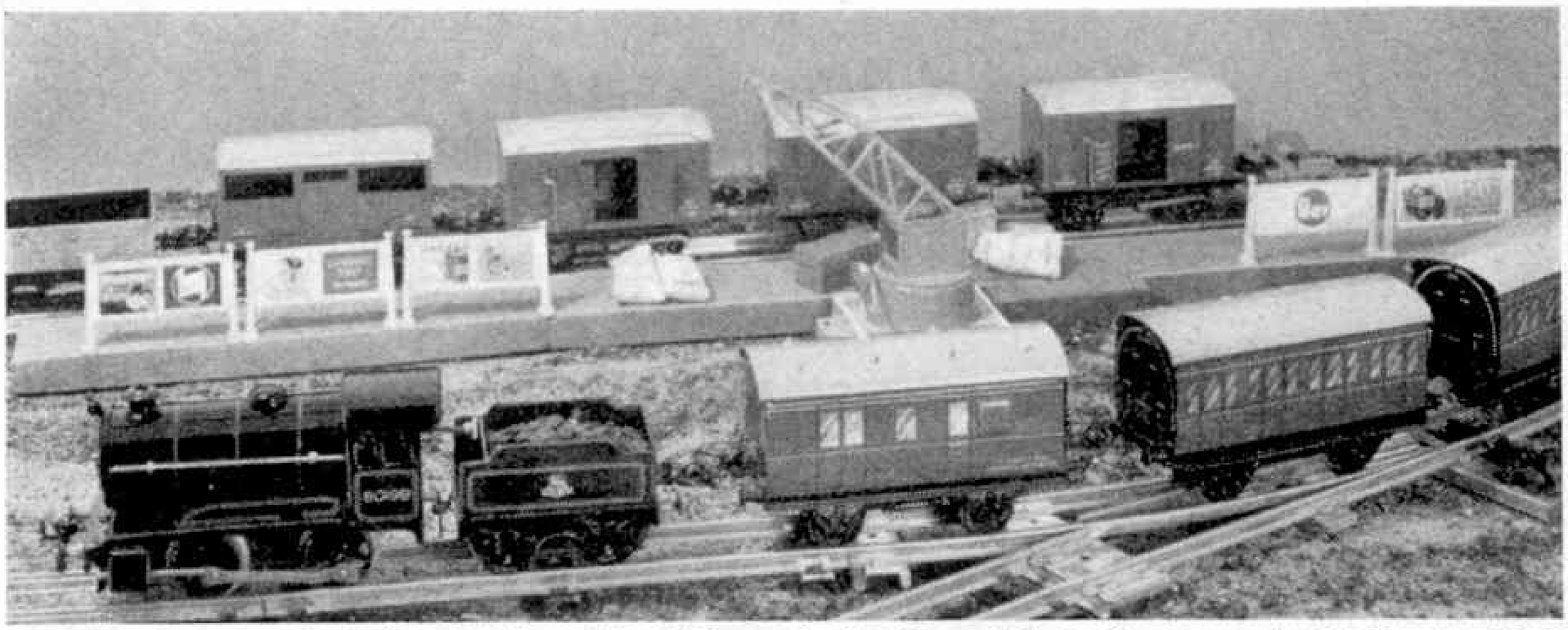
In full size practice, and in miniature, curves have a considerable influence on the running of trains. They may mean speed restrictions for real trains and they naturally affect the performance of clockwork engines on Gauge 0 railways. The more straight track there is, the better the engines run. It is well to bear in mind this and one or two other points that always crop up when laying down a track. So we might as well have a talk about them now.

I know that many boys have their railway equipment laid up, more or less, during the months that are devoted to outdoor activities, but others of course do not admit to there being any "close season." Whichever type of enthusiast you are, therefore, a word or two on Hornby Rails, Curves and Points will probably be useful and not only to our younger beginners. You will recall that we had a chat earlier this year on what I called *Rail Rules*, but that did not deal particularly with the subject of curves.

In the Hornby Gauge 0 System there are two kinds of curved rails, the familiar standard 2 ft. radius Curved Rails (12 to a circle) and the corresponding 1 ft. radius Curved Rails (6 to a circle). The radius is the measurement from the centre of the circle to the track. For various reasons, which I need not go into here, the terms 1 ft. and 2 ft. are nominal ones only. It is sufficient to remember that a 2 ft. radius layout requires a minimum width of 4 ft. 6 in., while the corresponding dimension for a 1 ft. radius track is 2 ft. 6 in.

In the picture above Right Hand Points of 2 ft. radius are used to form a siding from which the No. 40 Tank is drawing a loaded Wagon to add to the rest of the train.

Of course there are corresponding Curved Half Rails and there are Points too, for use in conjunction with the curves of either radius. These make layout planning easy and it is really surprising what a variety of formations can be made up from a given stock of rails. Rail planning, and the trying out of different track arrangements, is always good fun and I think most of us enjoy this part of the railway game even if not all the systems that we lay down work very well. We soon discover the types that



No. 50 goods stock and a train consisting of No. 41 Passenger Coaches and Brake Van appear in this Hornby railway view. The train is handled by a No. 50 Locomotive.

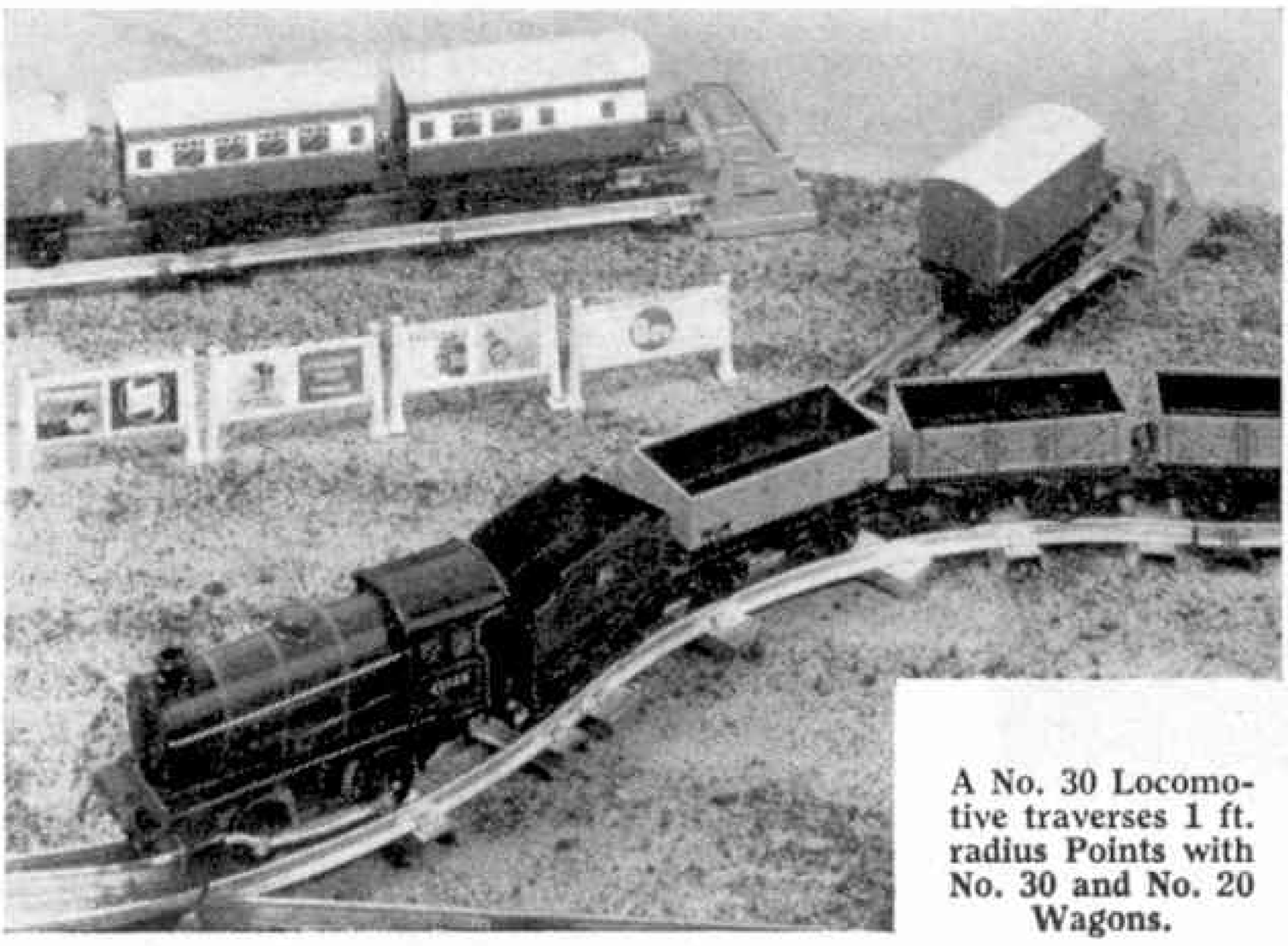
do, and those that do not, and so our experience benefits.

I need not remind you that it is not a good arrangement to endeavour to combine 1 ft. radius and 2 ft. radius equipment in the same system. It can be done if each kind of track is kept to itself. For instance you might have an oval incorporating 1 ft. radius curves inside another laid with 2 ft. radius curves, but things tend to go awry if we try to mix the curves and Points of one radius with those of another.

You may have noticed too that the Crossings, both Acute Angle and Right Angle, in the Hornby System are always referred to as being of 1 ft. or 2 ft. radius types. Actually the Crossings are not curved, of course, but the title is used to show that they are to be used in conjunction with curves and Points of the radius specified.

I said before that curves had an influence on the running of our trains and this will be apparent if you look through your copy of the Hornby Gauge 0 Trains folder, or the general catalogue of Meccano Products. You will see that while all Hornby Gauge 0 engines and rolling stock will run successfully over railways laid with 2 ft. radius equipment, only the smaller Locomotives and stock of the System can be worked successfully on 1 ft. radius layouts. It is important to note the distinction between the two kinds, particularly when one is adding to equipment that is already in use.

Of course matters are simplified considerably if we start off with a 2 ft. system and add only rails of this kind. Then it does not matter which engine or item of stock is added, but we must note that the coupling arrangements of the various kinds of stock listed are different from one another. Thus while Nos. 20/21 stock will run quite happily with Nos. 30/31 equipment, the larger engines and vehicles of the Nos. 40, 45 and 50/51 varieties will not couple to any of them satisfactorily. Although this is a difference arising out of the styles of couplings used, it is in a sense related to the radius of the curved rails normally employed for the various engines and items of rolling stock. Take care in selecting your stock and you will be all right.



A No. 30 Locomotive traverses 1 ft. radius Points with No. 30 and No. 20 Wagons.

From Our Readers

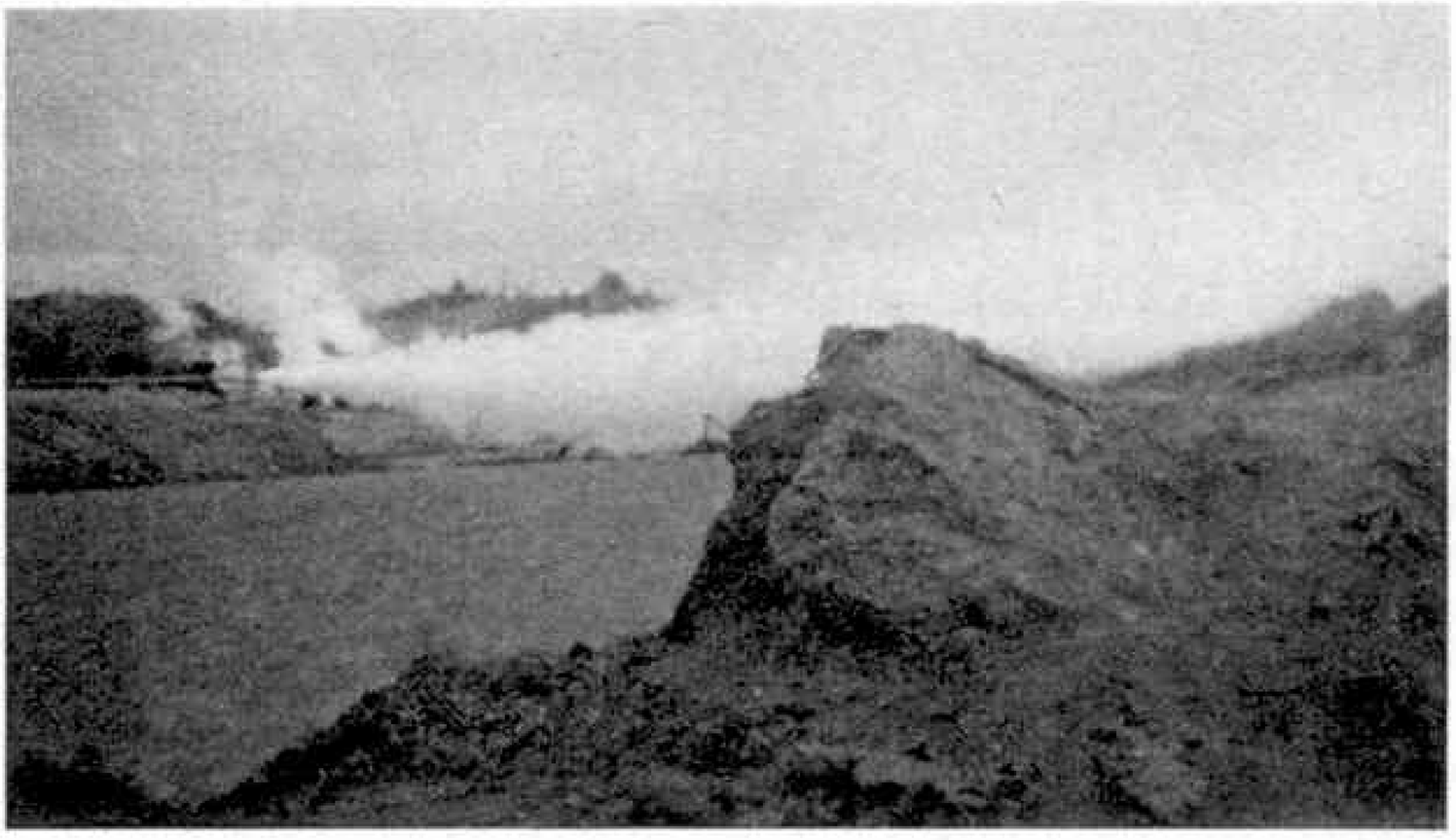
This page is reserved for articles from our readers. Contributions not exceeding 500 words in length are invited on any subject of which the writer has special knowledge or experience. These should be written neatly on one side of the paper only, and should be accompanied if possible by original photographs for use as illustrations. Articles published will be paid for. Statements in articles submitted are accepted as being sent in good faith, but the Editor takes no responsibility for their accuracy.

ELECTRIC POWER FROM GEOTHERMAL STEAM

Just six miles north of Lake Taupo, in the North Island of New Zealand, is the geothermal power project of Wairakei, in the volcanic belt of the North Island which is about 150 miles long and 30 miles wide. The geothermal steam exists at tremendous pressures under the crust of the earth in this and other areas such as Waiotapu, Orakei Korako and Waimangu.

The first turbines at Wairakei are expected to be in operation this month. It was about 1950 that the first bores were sunk and from these jets of steam of tremendous force came rushing out of the pipes with a harsh roar that could be heard for miles. From the condensing steam fell a rain of silica which has whitened the surrounding forests. The trees have ultimately died and have become petrified with the silica.

At present 62 bores, each 8 in. in diameter, have been drilled, the deepest being 3,000 feet. The highest temperature recorded at the head of a bore was 230 deg. C. and the pressures vary between 100 and 430 lb. per sq. in. Because of the proximity of the Government Tourist Hotel, the bores have been fitted with large concrete silencers, which look something like the funnels of a ship. The earth surrounding each bore is continually shaking with the force of the bore. In fact a penny will not stand on its end for long inside the Tourist hotel, which is about ½ mile away from the area.



A new bore in the volcanic region in the North Island of New Zealand sends out a great jet of steam. Photograph by K. Ross, Wellington, New Zealand.

From the bores the steam is piped through branches that lead it to five 20-inch mains. These 20-inch mains travel for two miles to the banks of the Waikato river, where the power house has been built.

Every 1,000 feet along the five main pipes, there are loops that look like inverted U's. These take up the expansion of the pipes caused by the high temperature of the steam.

Associated with this geothermal power project is a scheme to produce a vital material of the Atomic Age —heavy water, which can be made as a by-product.

K. Ross (Wellington, N.Z.)

The old lighthouse, now disused, on St. Agnes, one of the Scilly Islands. Photograph by P. M. Smith, Bath.

BRITAIN'S SECOND OLDEST LIGHTHOUSE

Last summer, I was fortunate enough to be able to spend three weeks on holiday in the Isles of Scilly, that remarkable little island paradise twenty-eight miles off the tip of Land's End.

While there, I was surprised to find on St. Agnes, one of the five inhabitated islands of the group, a lighthouse that is reputed to be the second oldest in the British Isles. Although built as long ago as 1680, and now disused, the lighthouse still seems to be in remarkably good condition.

For more than a hundred years the light was produced by a coal fire. The original coal burner, built of iron, can still be seen among the tropical trees and plants of the renowned Abbey Gardens on Tresco, the second largest of the islands in the archipelago.

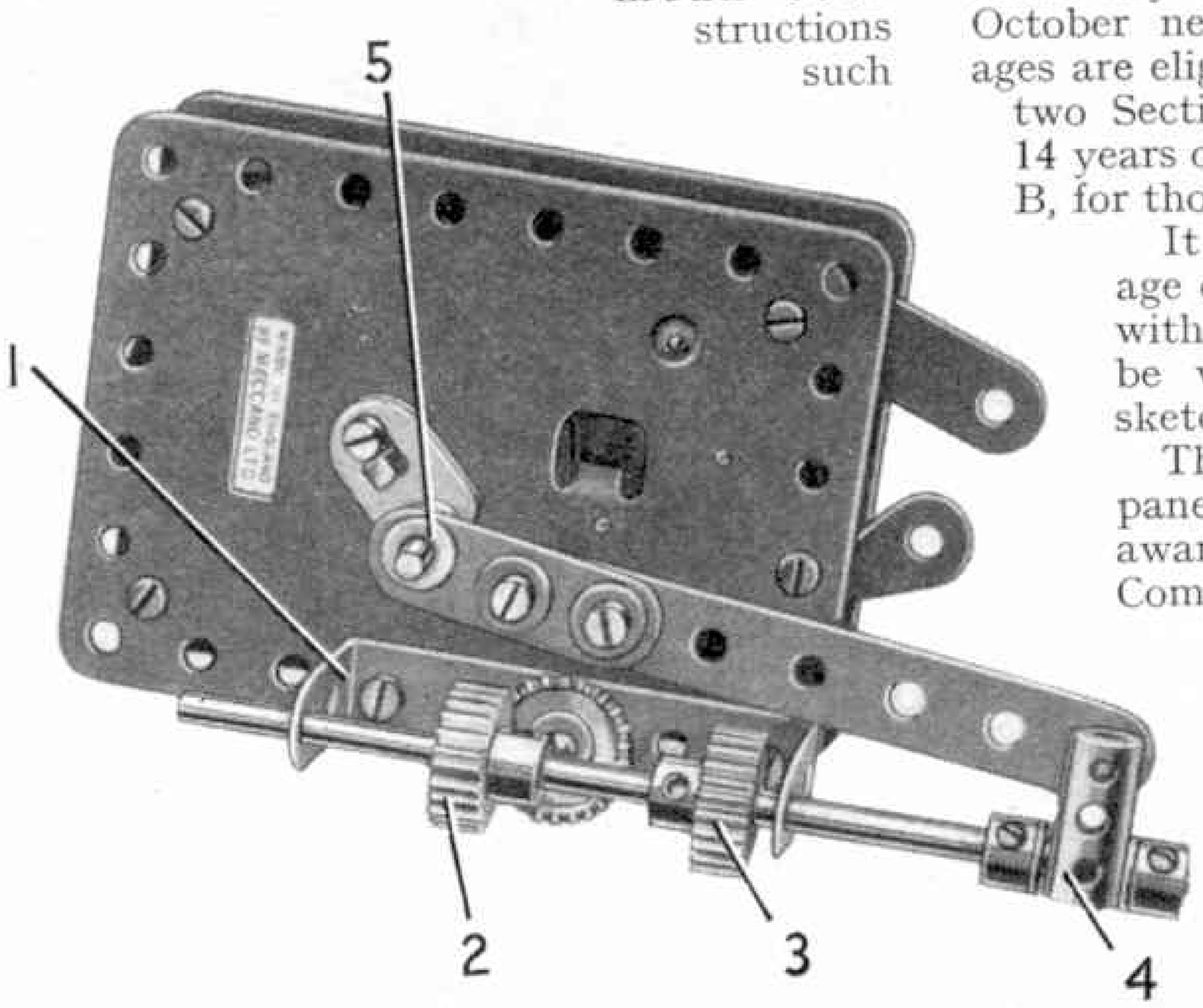
In 1911 a lighthouse was erected on Peninnis headland on St. Mary's, the main island in the group, to replace the one on St. Agnes, and to take over the task, together with the Bishop Rock, Round Island and Wolf lighthouses, of guiding shipping through the treacherous seas around the Scillies.

P. M. Smith (Bath).

The Meccano "Mechanisms" Competition

Cash Prizes for Good Ideas

WE wish to remind readers that there is still time to prepare and send in entries for the "Mechanisms" Competition that was announced in the August issue of the Magazine. In this Contest completed Meccano models are not required and entries will be confined to mechanisms only. By mechanisms we mean constructions such as gear-boxes, clutches, differentials, reversing gears, brakes and similar mechanical devices designed for carrying out specific purposes or special mechanical movements. There are hundreds of suitable devices, many of which require only a few parts to build up, and in addition there is an amazing number of different ways of constructing mechanisms that serve identical purposes.



An automatic reversing mechanism fitted to a No. 1 Clockwork Motor. This is an example of the kind of entry that is suitable for the Competition announced on this page.

We wish to emphasize that it is not necessary to incorporate the mechanism in an actual model. The entry should consist of the mechanism itself only.

After you have thought out and built up a mechanism the next thing we ask you to do is to make a neat sketch of it, or better still obtain a good clear photograph. Then write a short description of the purpose and construction of the mechanism and send this, together with the sketch or photograph, to "Meccano Mechanisms Competition, Meccano Limited, Binns Road, Liverpool 13".

Entries for this Competition may be sent in at any time up to and including 31st October next, and model-builders of all ages are eligible to compete. There will be two Sections: A, for competitors under 14 years of age on 31st October next, and B, for those aged 14 or over on that date.

It is important to note that your age on 31st October, 1958, together with your name and address, must be written on the back of each sketch or photograph that you send.

The Cash prizes listed in the panel at the foot of this page will be awarded in each Section of the Competition for the most interesting mechanisms received. In making their awards the competition judges will give special attention to mechanisms that have really practical uses in models of various kinds and which show originality in the use of Meccano parts.

While it is best to think up a new mechanism for yourself you may, if you wish, select one of the mechanisms that have appeared in the *Meccano Magazine* in the past and then re-design it so as to make it more simple or compact in construction while at the same time retaining all its essential functions. Actual copies of mechanisms that have appeared in the *Meccano Magazine* will not be eligible.

THE PRIZES

The following prizes will be awarded in each of the Sections A and B.

	£	s.	d.
First Prize, Cheque for	4	4	0
Second Prize, Cheque for	2	2	0
Third Prize, Cheque for	1	1	0
Ten prizes, each of		10	0
Ten prizes, each of		5	0

Closing Date for Entries: 31st October, 1958.

Among the Model-Builders

By "Spanner"

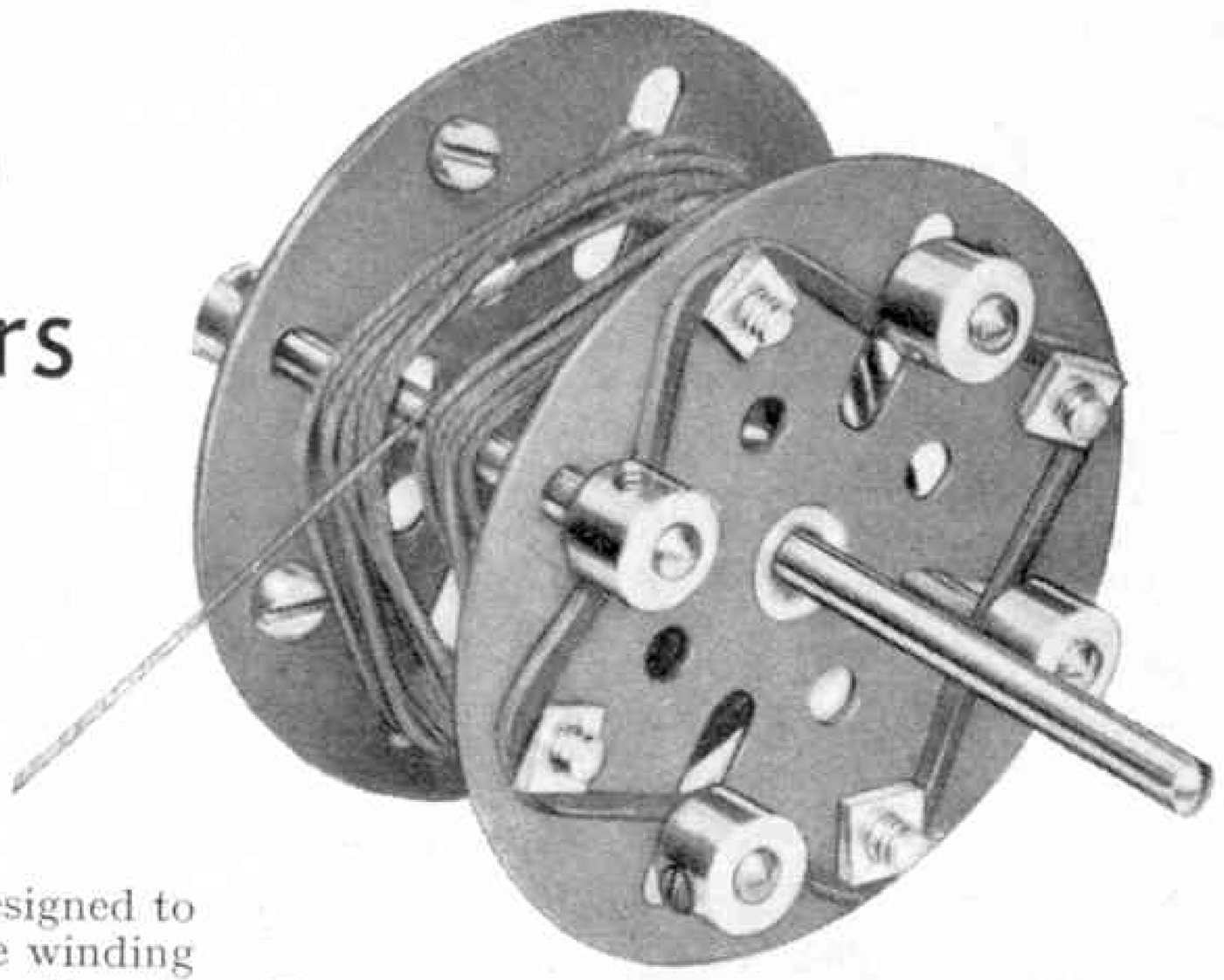


Fig. 1. A variable diameter winding drum suitable for use in model cranes.

Variable Diameter Winding Drum

Fig 1 shows a novel winding drum that can be adapted for use in large model cranes. It is designed to allow the effective diameter of the winding drum to decrease or expand according to the weight to be lifted, so effecting economy in the lifting power required.

The drum consists of four Rods mounted in the slotted holes of two Face Plates and held in place by Collars. Each of the Face Plates is fixed on the drum shaft. In the round holes in each Face Plate four bolts and nuts are fixed. An elastic band is carried over the four bolts in each Plate and is gripped between the nuts and the Plate. The elastic is then looped under the four Rods as shown. The effect of this arrangement is that the Rods are normally held at the outer ends of the slots in the Face Plates, but tend to move inwards down the slots when a load is applied to a cord wound around the four Rods.

An Intermittent Motion Mechanism

By means of the mechanism shown in Fig. 2 intermittent motion of variable duration can be imparted to a driving shaft. A 57-tooth Gear Wheel 1 fitted with four Threaded Pins is constantly driven by a Worm 2 on the input shaft. The inner end of the Rod on which the Worm is mounted carries one half of a Dog Clutch 3, and also mounted on this Rod is a Bevel Gear that is driven from another Bevel Gear on a shaft at right-angles to it. The other half of the Dog Clutch is fixed on the end of a slidable Rod 4.

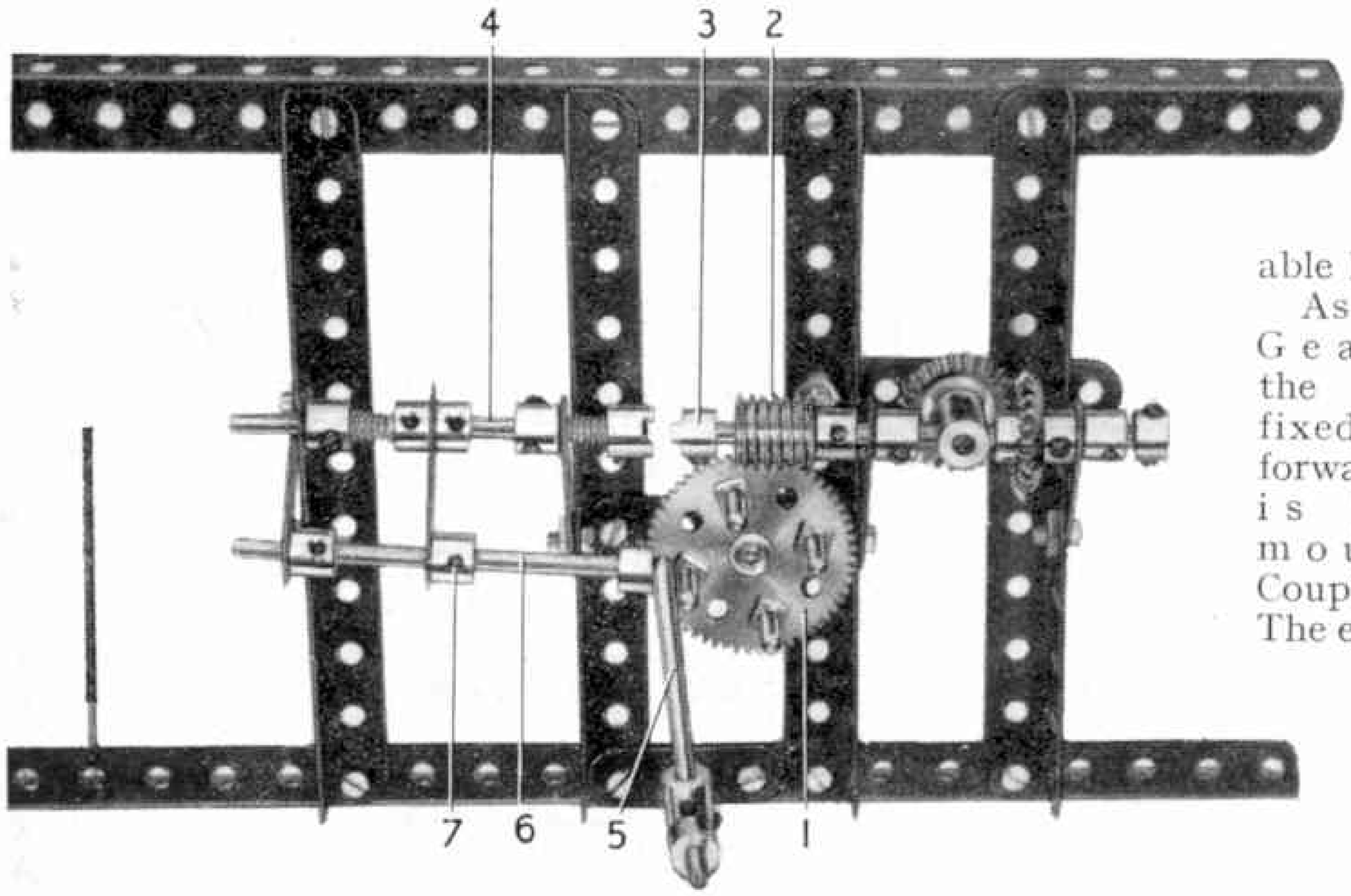
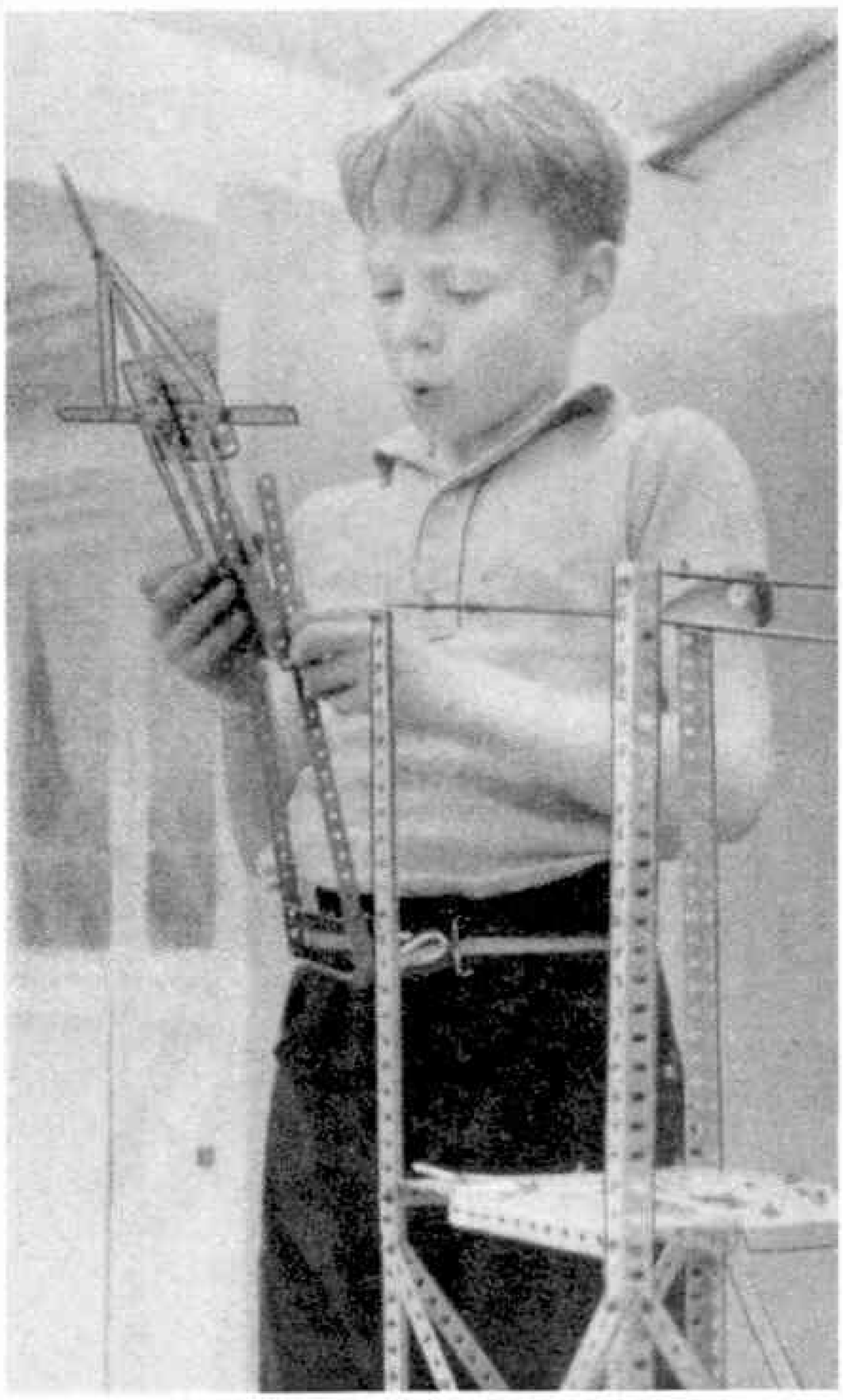


Fig. 2. A novel method of obtaining variable intermittent motion.

As the 57-teeth Gear rotates the Threaded Pins fixed in it push forward a Rod 5 that is pivotally mounted in a Coupling as shown. The end of Rod 5 then makes contact with a Collar on the end of a second slidable Rod 6, which is linked by Crank 7 to the Rod 4 carrying one



"Whistle while you work", seems to be the motto of this happy model-builder, Richard Pizey, Kelvedon, Essex.

half of the Dog Clutch.

Compression Springs on Rod 4 return the two halves of the Dog Clutch into engagement as the pressure of each Threaded Pin in turn is released when the 57-teeth Gear rotates.

The end of the pivoted Rod 5 is in contact with the Collar on the sliding Rod 6 during the period that a Threaded Pin is moving the halves of the Dog Clutch out of engagement. At other times the pivoted Rod is free. The intermittent output drive is of course taken from the Rod 4 and the number and disposition of the Threaded Pins in the 57-teeth Gear determine the duration and frequency of the intermittent movement of Rod 4.

Simple Centrifugal Clutch for Light Drives

For transmitting a light drive the centrifugal clutch shown in Fig. 3 might be used. This device, designed by Graham Ord, Gatley, Cheshire, is very simple and is in two halves, the driving and the driven member. The driving member or input consists of a 2" Rod carrying two Double Arm Cranks 2 and a Coupling 3. The Cranks are free on the Rod and each carries in its boss a $\frac{3}{8}$" Bolt locked in place by a nut. A small rubber Driving Band 4 is looped over these two Bolts as shown and normally its "pull" keeps the Cranks close up against the Coupling 3. The driving shaft is a Rod 5 fixed in the longitudinal box of the Coupling.

The driven member is a Boiler End 6, to the outside of which a Bush Wheel is bolted. A short Rod is fixed in the boss of the Bush Wheel and its inner end protrudes into the longitudinal bore of the Coupling 3.

When the input shaft 5 is rotated the Double Arm Cranks tend to move outward against the pull of the Driving Band, and if the speed of rotation is sufficiently high they eventually make contact with the inside flange of the Boiler End and so cause the Boiler End to rotate as one unit with the input shaft.

Of course a simple clutch of this design is suitable for transmitting only a high speed and very light drive. If it is required to transmit a powerful slow-speed drive it is best to use some form of clutch incorporating rubber friction drive, or a still more positive type such as the two sections of a Dog Clutch.

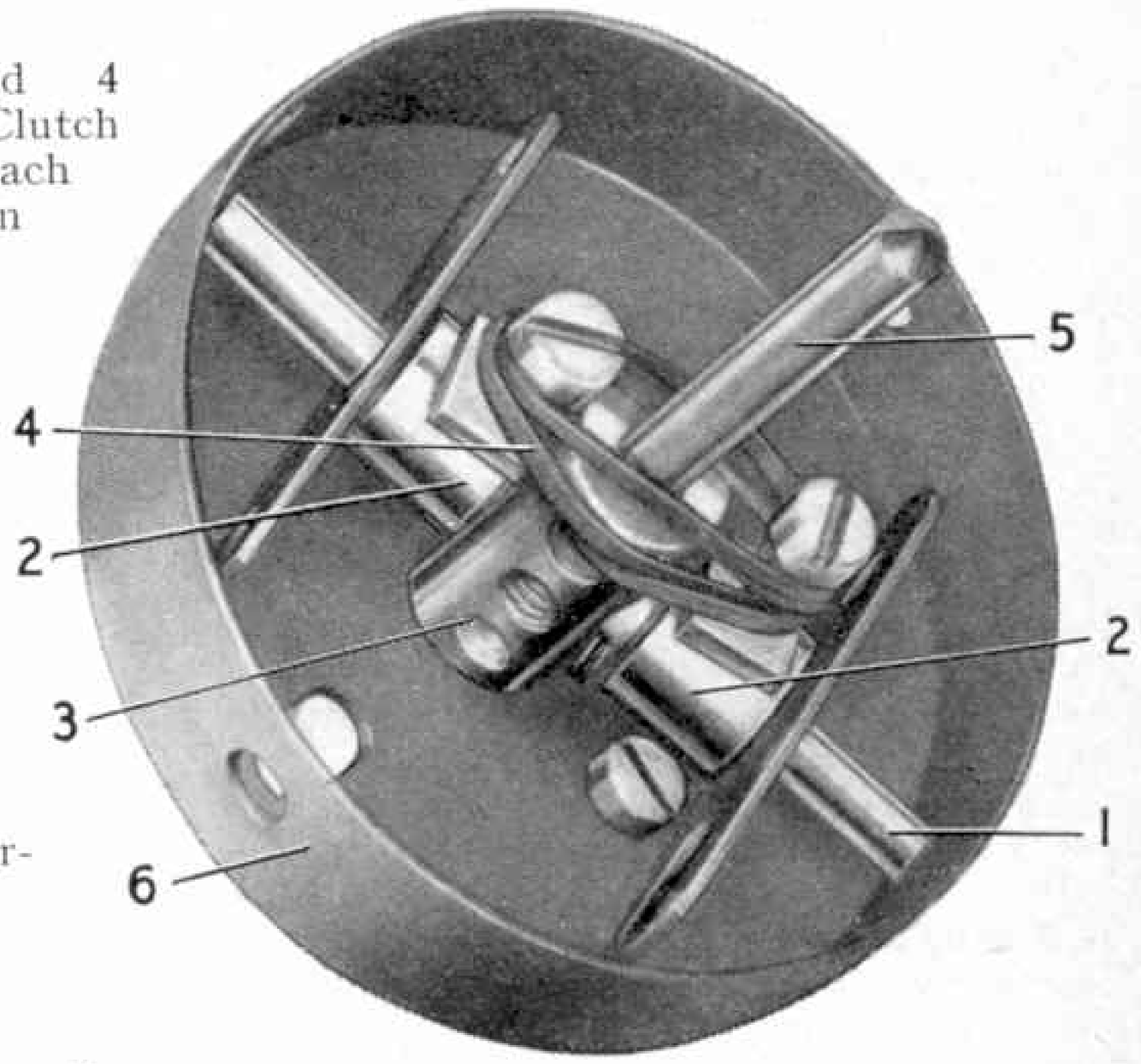


Fig. 3. A centrifugal clutch suitable for light drives.

New Model for Outfit No. 6

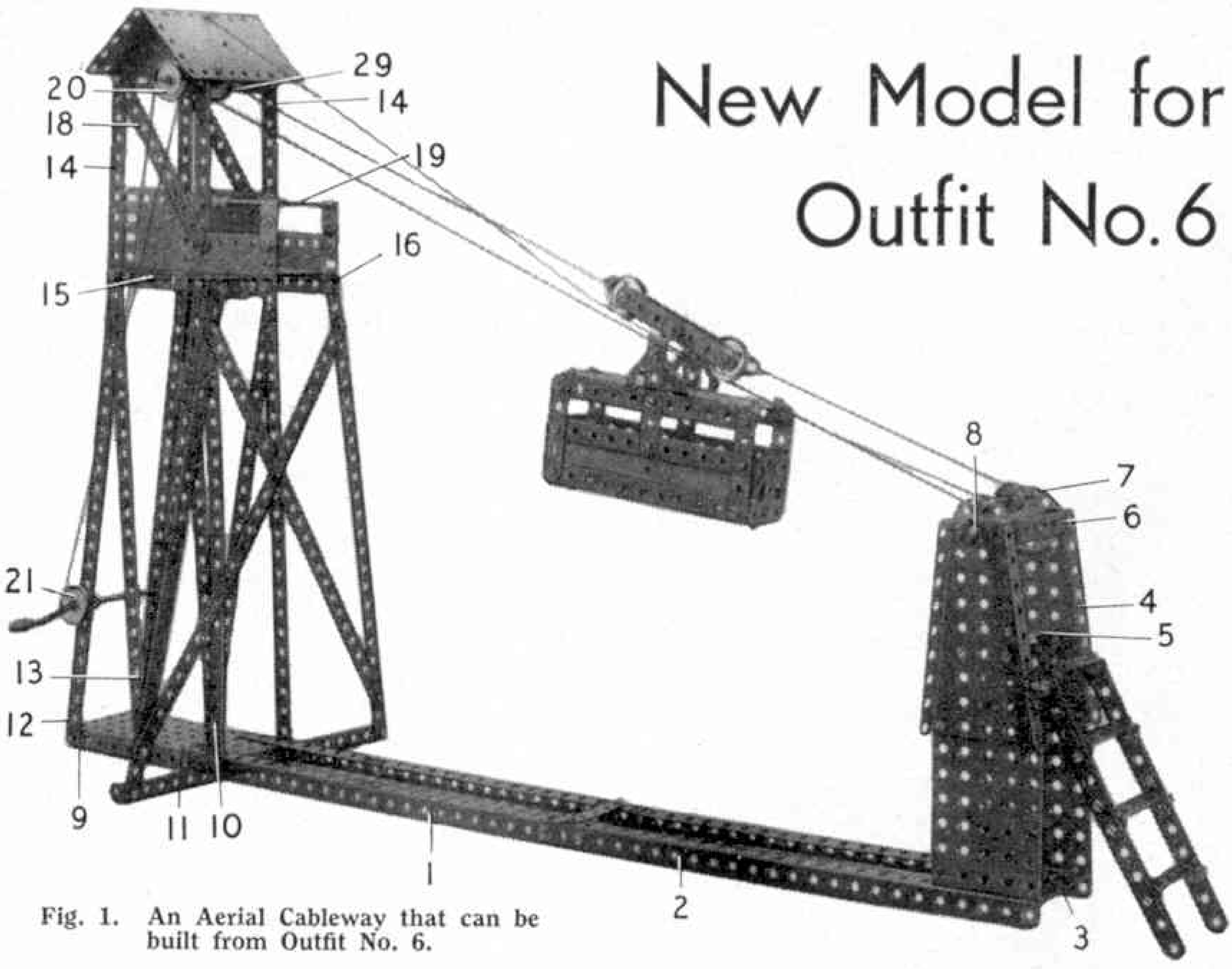


Fig. 1. An Aerial Cableway that can be built from Outfit No. 6.

Aerial Cableway for Passengers

AERIAL cable railways are used in many parts of Switzerland, and in other countries, for conveying sight-seers to beauty spots high up in the mountains, and in conjunction with rack and pinion or cable-operated funiculars, play a very important part in enabling tourists and others to reach many viewpoints that would otherwise be inaccessible to them.

The cableway consists of a strong steel cable which stretches between a landing station at the lower level and another station at the upper level, which may be thousands of feet up the mountain. In its span the cable may cross deep ravines and river gorges and may at some points be hundreds of feet above the ground.

From this cable is suspended a passenger car, which runs on grooved pulleys along the cable. The car is hauled along by a cable that runs below or alongside the main cable and passes around driven pulleys at the upper and lower stations.

It is a cableway of this type that is represented by the Meccano model shown in Fig. 1, and in building the model it is best to commence with the base frame and the lower landing station.

The base consists of two pairs of $12\frac{1}{2}$" Angle Girders 1 and 2, overlapped three holes and bolted together. These are spaced apart with a $2\frac{1}{2}$" Strip in the centre and a $2\frac{1}{2}$" Strip 3. Two $3\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plates are bolted to the Angle Girders 2, and extended with Flanged Sector Plates 4. The Flanged Sector Plates are joined together with $2\frac{1}{2}" \times 1\frac{1}{2}"$ Flanged Plate 5 and a $2\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strip 6 and two eight hole Wheel Discs are bolted to their upper ends. A $3\frac{1}{2}"$ Rod 7, held in position with Collars, carries a $\frac{1}{2}"$ Pulley Wheel, while another Rod 8 is held by Spring Clips in the centre of the Discs. Each side of the approach steps is built from two $3\frac{1}{2}"$ and two 3" Strips overlapped one hole. The sides are bridged with two $2\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strips, two $2\frac{1}{2}"$ Strips and Angle Brackets.

To construct the upper landing station and its supporting tower, bolt a $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate 9 to the Angle Girders 1

overlapping three holes. Now bolt a 12½" Strip 10 and a 3½" × ½" Double Angle Strip 11 in one end hole of the Flanged Plate 9 on each side, and a further 12½" Strip 12 at the other end. These are braced by two 12½" Strips 13. Extend the 12½" Strips 10 and 12 with 5½" Strips 14, and at the same time secure in place on each side a 5½" Strip 15, using ⅜" Bolts. Two 2½" × ½" Double Angle Strips 16 are also fastened to these ⅜" Bolts to hold the sides of the framework together. At the top of the 5½" Strips 14, bolt a 2½" × 2½" Triangular Flexible Plate, also a 2½" × ½" Double Angle Strip 17. A Hinged Flat Plate is bolted to these Double Angle Strips 17. 5½" Strips 18, brace the structure on each side. A 2½" × 2½" and a 2½" × 1½" Flexible Plate are bolted to the Strip 15. The handrail is a 2" Rod 19 held in place by a Rod and Strip Connector bolted to Strip 14, and a Right Angle Rod and Strip Connector is fixed to the 2½" × 1½" Flexible Plate. To the 3½" × ½" Double Angle Strip a 12½" Strip is bolted, which in turn is secured to the 5½" Strip 15 with a ½" Reversed Angle Bracket and an Angle Bracket. Two further 12½" Strips are used to brace the model. A 4" Rod 20 is placed in the elongated holes of the Triangular Flexible Plates with a 1" Pulley Wheel 29 at its centre and another on the outside. A third 1" Pulley 21 is secured to a Crank Handle and drives by a belt of Cord the 1" Pulley on Rod 20. The floor of the landing platform is a 5½" × 2½" Flexible Plate.

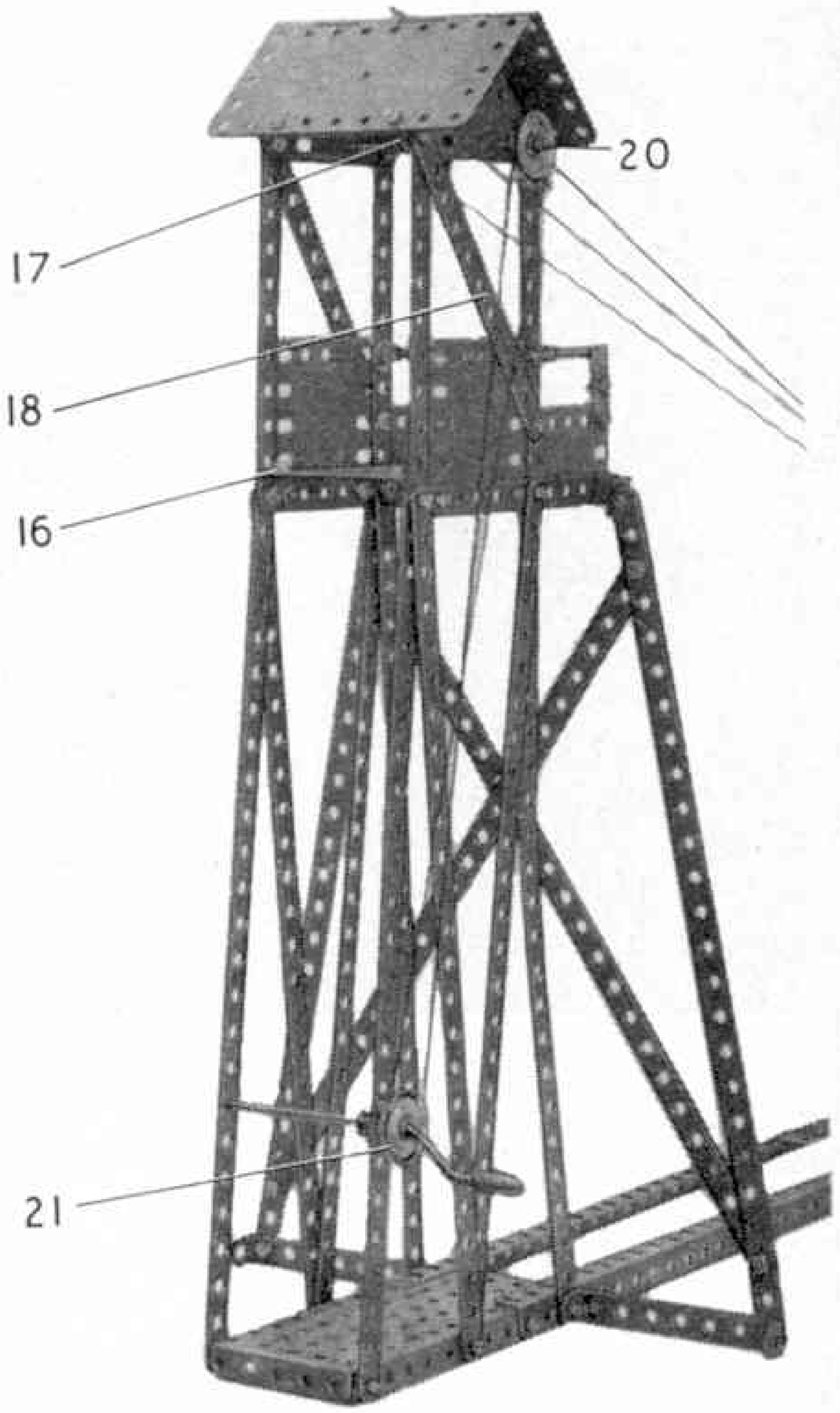


Fig. 2. The upper landing platform and cable tower.

To construct the passenger car bolt two 2½" Strips 22 at each end of the 5½" Strips 23 and 24 (Fig. 3)

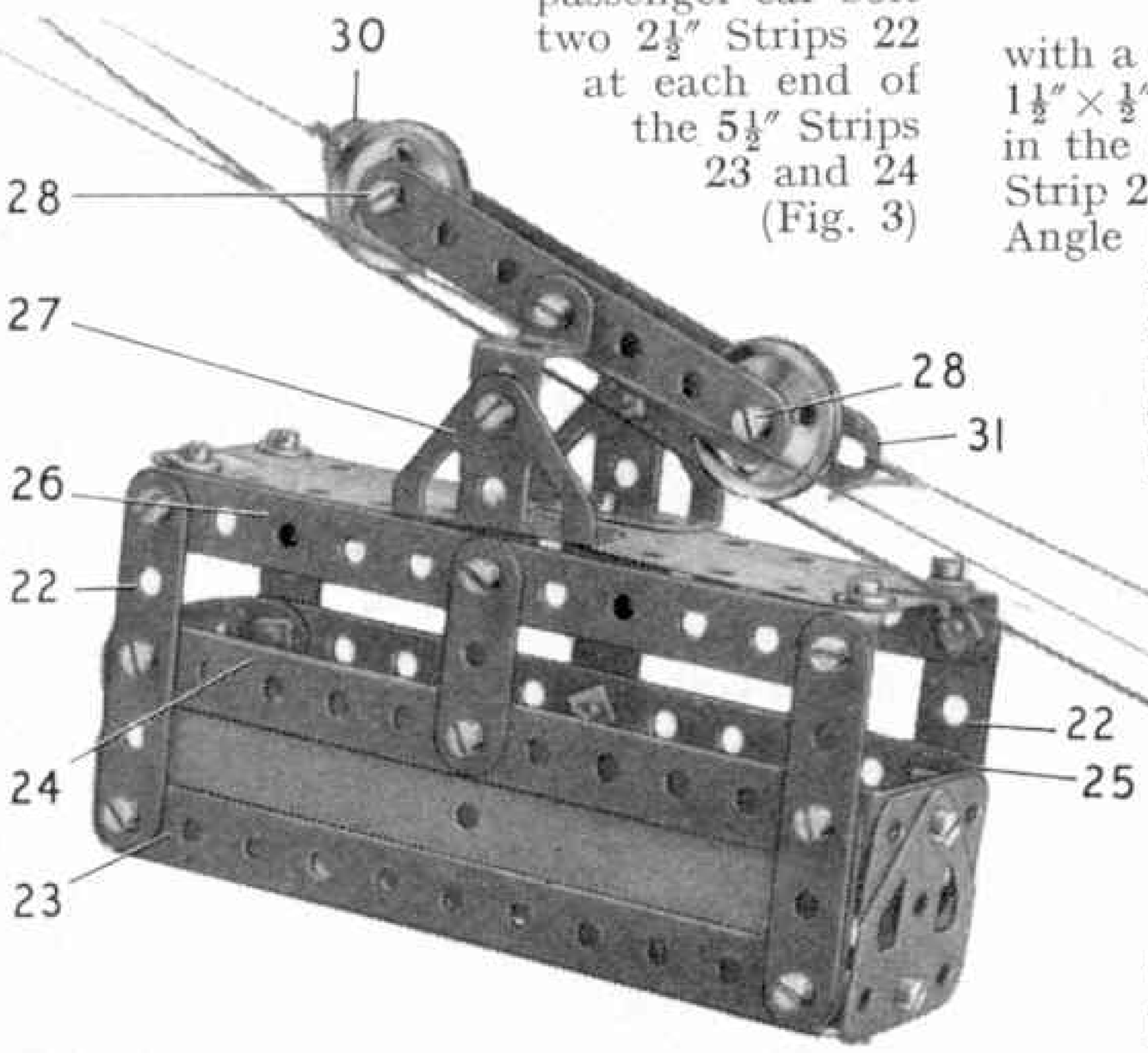
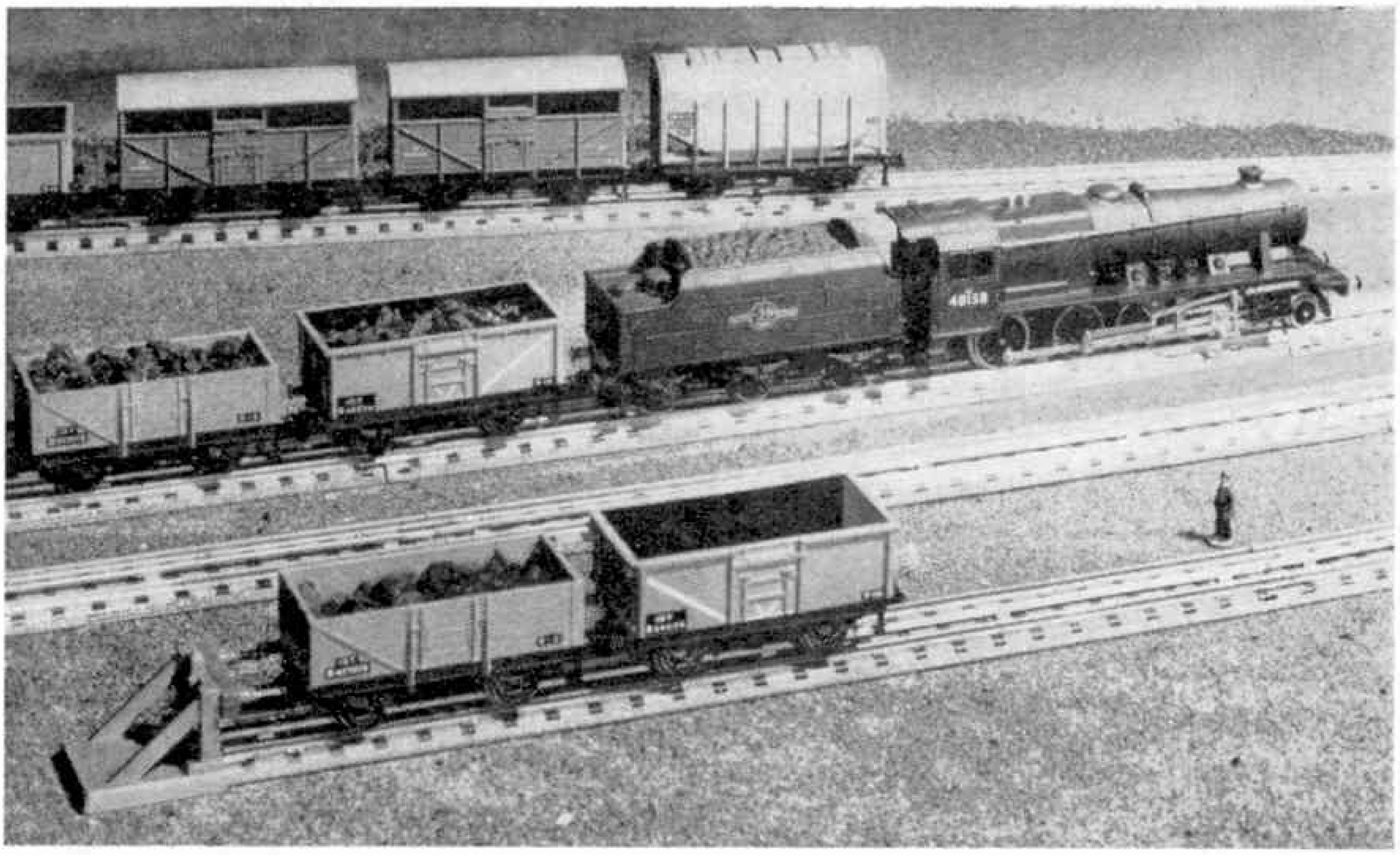


Fig. 3. The passenger car of the Aerial Cableway. Note particularly how the hauling cord is attached.

with a 5½" × 1½" Flexible Plate between. A 1½" × ½" Double Angle Strip 25 is bolted in the centre of the 2½" Strips 22. A 5½" Strip 26 is secured to each 2½" Strip 22 with Angle Brackets on the inside, and a 1½" Strip is bolted between the 5½" Strips 24 and 26. At each end two Flat Trunnions placed together to form a 1½" square, are bolted to the Double Angle Strips 25. An Angle Bracket bolted at the bottom of the Flat Trunnions has a 5½" × 1½" Flexible Plate attached to it to form the floor of the car. The top of the car is constructed similarly, but two Trunnions 27 are fixed in the positions shown. To these two ½" Reversed Angle Brackets are bolted. Two 3½" Strips are lock-nutted

(*Continued on page 456*)



HORNBY RAILWAY COMPANY

The New 8F 2-8-0

A Triumph of Design

By the Secretary

HERE now is the engine you have all asked for, the Hornby-Dublo 8F 2–8–0 that I told you about last month. In its way this is as important an addition to the system as was *Bristol Castle* last year. Just look at the pictures here showing the engine at work and you will have no doubt about this. It is as fine an example of locomotive modelling as you will find anywhere, well in keeping with the Hornby-Dublo tradition of sturdy design, fine detail and reliable performance. With its small 8-coupled wheels and leading pony truck, it really looks like a heavy main line freighter, whether standing or actually carrying out the duty it is designed for—hauling a train of goods vehicles.

The picture at the head of the page shows a fine view of the new Hornby-Dublo 8F 2-8-0 Locomotive at work. Several of the magnificent Super Detail Wagons now available are also to be seen.

The new engine represents a prototype with a narrow fire-box, that is to say one fitting between the main frames. So, to be a bit technical for a moment, the motor unit on this engine is the same as that on *Bristol Castle*, the worm on the motor shaft driving a skew gear on an intermediate coupled axle at a gear ratio of 30 to 1. The driving arrangements and the compact nature of the motor have made it possible to incorporate a clear space beneath the boiler barrel, thus giving the "daylight" effect that is so sought after by enthusiasts. Very often, as you know, the motor occupies a good deal of this space and the "barrel" effect apparent with many real boilers is lost.

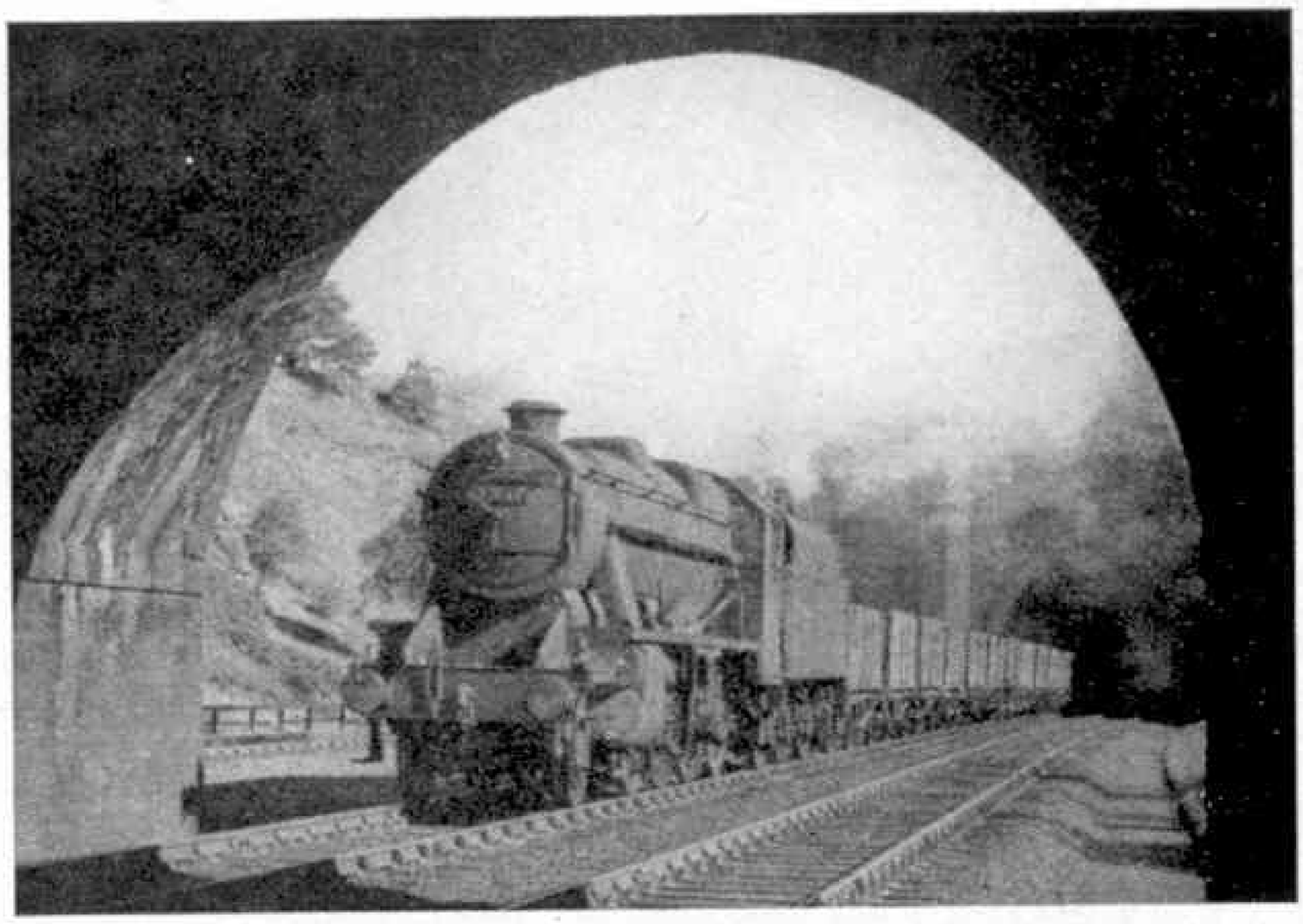
The raised footplating passes completely over the tops of the driving wheels, as on the real engine, and above this is mounted the smoke-box, and the boiler barrel and fire-box with their characteristic tapering shapes. Rivet heads, boiler bands, washout plugs and inspection caps—all these are plainly shown on the boiler and fire-box; and underneath the handrail along the left-hand side, from cab to smoke-box, there runs a representation of the pipe from the vacuum ejector, which of course, is modelled as well.

The real engines have the steam brake

on the engine and tender wheels, but have vacuum apparatus. So you can use your Hornby-Dublo 8F 2–8–0 to pull not only fitted freights, but also your passenger trains if necessary.

I could fill pages with other features of this splendid model, both above footplate level and below, but you have only to compare it with its original, if you can see one at work, or with a picture such as that on the right. Then you can see immediately that it really has everything. And in particular the movement of the Walschaerts valve motion and the coupling and connecting rods produces a really fascinating sight when the engine is on the run, particularly if it is travelling slowly. And it *can* travel really slowly. Don't forget that real 2–8–0s do not normally gallop along at 80 m.p.h., although many of them can get along in a pretty sprightly manner.

The driving wheels will please you as they are provided with healthy-looking balance weights that add to the realism of things as the wheels turn round. Because of the sharp nature of Hornby-Dublo curves, the intermediate and driving pairs of wheels have no flanges, but this does not detract from the general appearance of the engine, which is really "good to look at".

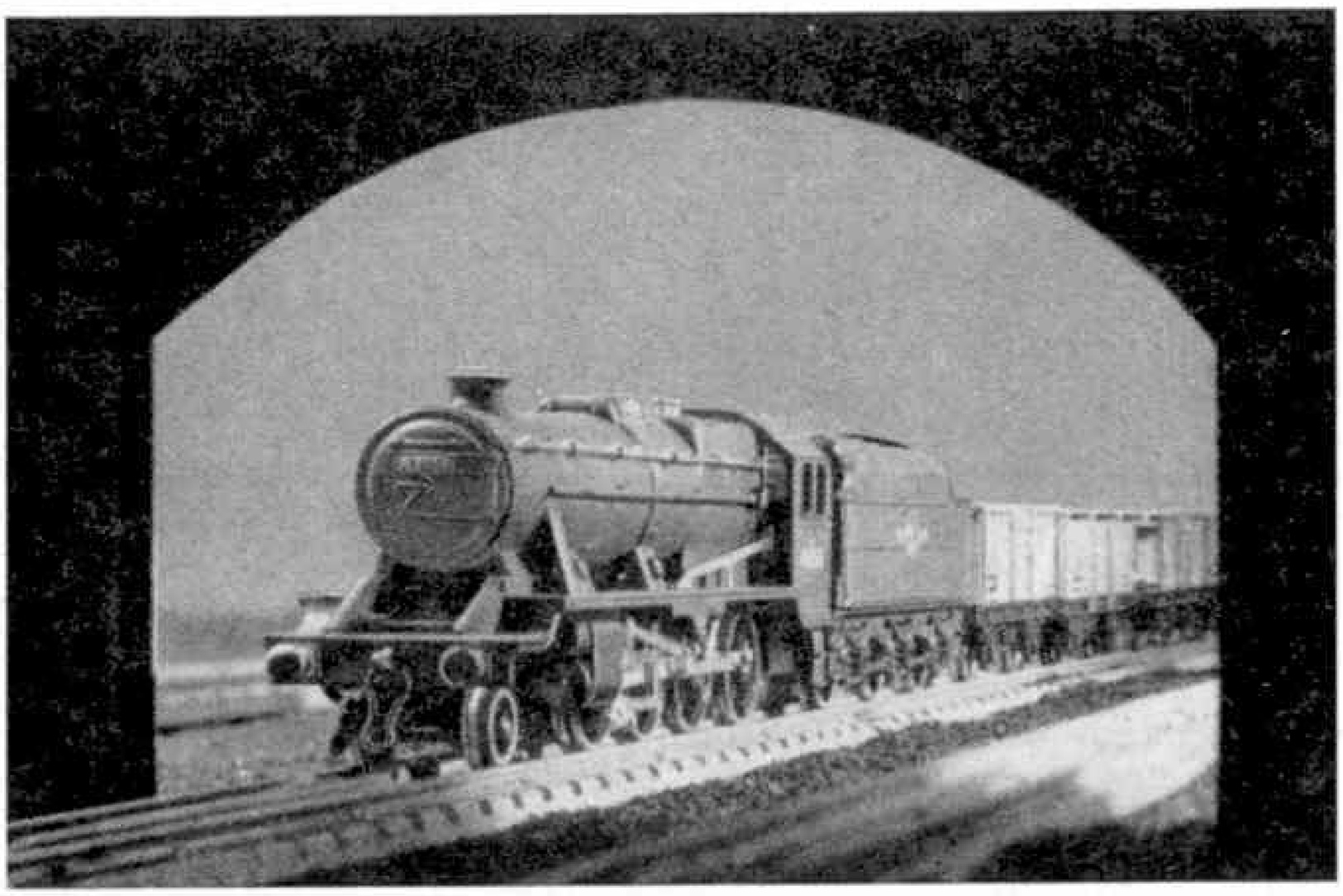


A real L.M.R. 8F 2-8-0 on a train of coal empties. It was caught by the camera of Mr. P. J. Lynch soon after emerging from Linslade Tunnel.

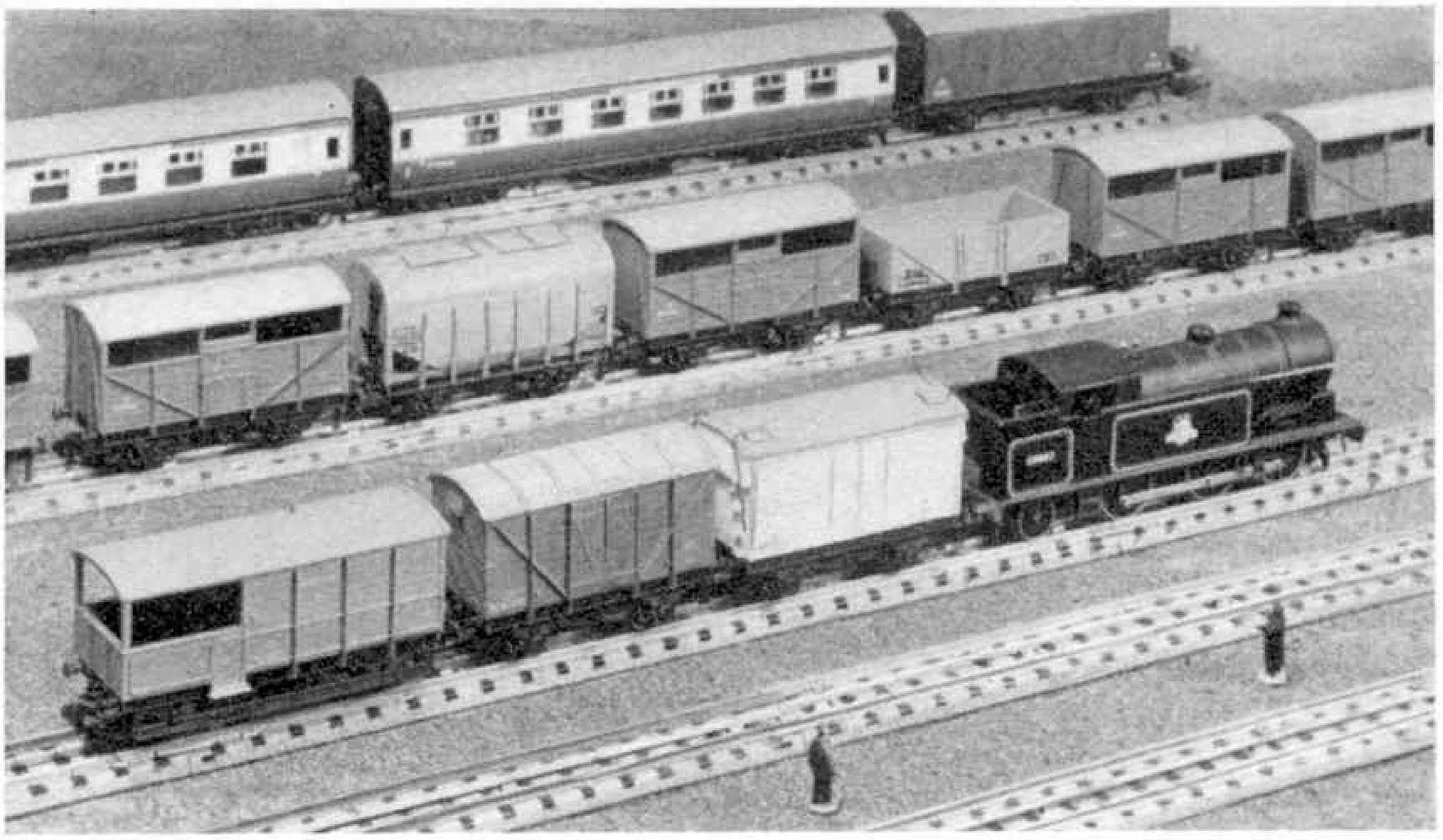
Engine and tender are permanently coupled by a stout drawbar as is the case with *Bristol Castle*, the pick-up shoes being located beneath the tender. There is therefore a connecting lead from the motor that is plugged into a socket on the tender front. The tender base is a stout die-casting, with the main frames finely detailed to reproduce the steps, the axleboxes and other associated details, and the springs and hangers.

The upper part of the tender is of die-cast construction and this has provided a splendid opportunity for reproducing all the well-known features of the 9-ton 4,000 gallon tenders that are usual on this class of engine. The tender front, with details in relief, the load of well modelled coal contained within the division plates, and behind it the tank filler, water pick-up dome and tank vents, are all there.

The engine is finished in black, without lining, carrying its classification "8F" on the cab side above the numbers, and of course the tender sides are decorated with the latest B.R. emblem.



The Hornby-Dublo 8F 2-8-0 in a similar setting to that in the upper illustration. The appearance and detail of this new engine speak for themselves.



What's New in Hornby-Dublo?

THE "Late news item" mentioned by the Secretary of the Hornby Railway Company in his talk last month, referring to yet another SD6 goods vehicle, promised further details. So here are pictures and notes dealing not only with the SD6 12-ton Ventilated Van, but also with this month's new item—the SD6 Goods Brake Van (W.R.). Each of these is of a quality well in keeping with that of the other members of the series.

The new Ventilated Van represents the B.R. Standard 12-ton van. There is no need to tell you that the features of the original are reproduced exactly, with the result that we have a splendid Hornby-Dublo Van for general freight traffic. The sides really look as though they are of planked construction, while the T-section stiffening members stand out as boldly as they do on the prototype.

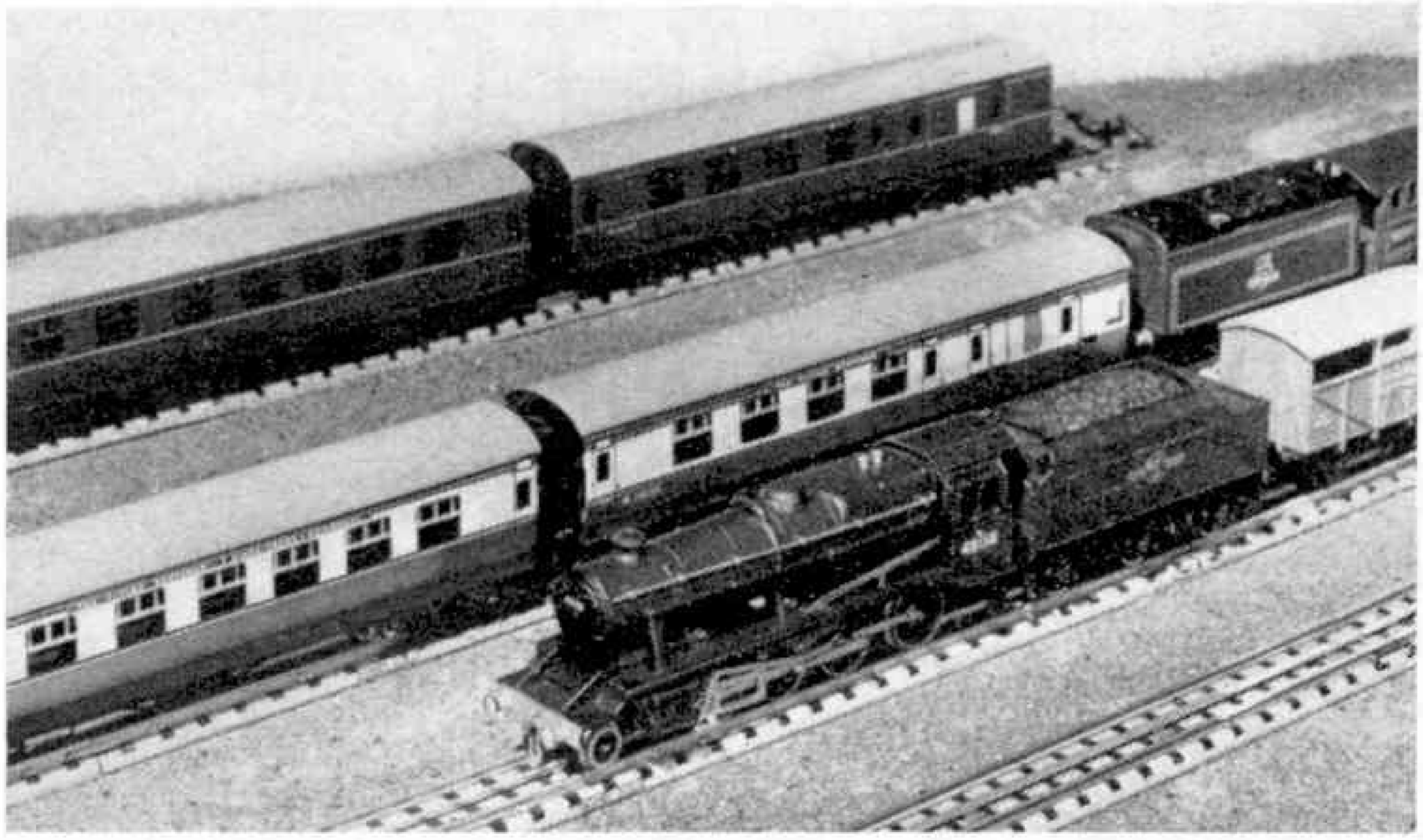
The characteristic hinged doors of the real van are modelled precisely and the fine degree of the detail will be apparent from the close-up illustration on the next page, from which it will be seen how splendidly such a small feature as the locking bar and pin arrangement used to secure the real doors is reproduced. Of course the ends are modelled equally well to represent the real corrugated end sections with a single ventilating hood placed centrally.

The roof is equally "life-like", with its end beadings and intermediate cross battens while above the door section are the usual curved rain strips. Unlike the other Vans in the Hornby-Dublo System, this particular one has a white roof, contrasting very nicely with the bauxite shade of the body. There *are* B.R. Standard vans about with a special white finish to their roofs and to have vans with similar roofs on the Hornby-Dublo railway scene gives a fine variety.

Prominent in the picture above are the two new vehicles reviewed in this article. They are the SD6 Goods Brake Van and the corresponding SD6 12-ton Goods Van produced last month.

The body is mounted on a standard die-cast base running on moulded spoked wheels, you will note. Add that this is just the Van for fast freight trains, as the lettering *XP* on the sides indicates, but remember too that it will not be out of place even on the ordinary "pick-up" goods.

To complete a train of the really delightful Hornby-Dublo moulded stock, the SD6 Goods Brake Van of W.R. type is exactly what you want. It is already included in the two new Goods Train Sets, G16 and G19 respectively, that were introduced a little while ago, and now this



The new Hornby-Dublo 2-8-0 comes into the picture with an SD6 Cattle Wagon. Have you noticed the Name and Destination Boards on the passenger train passing it? More about these later!

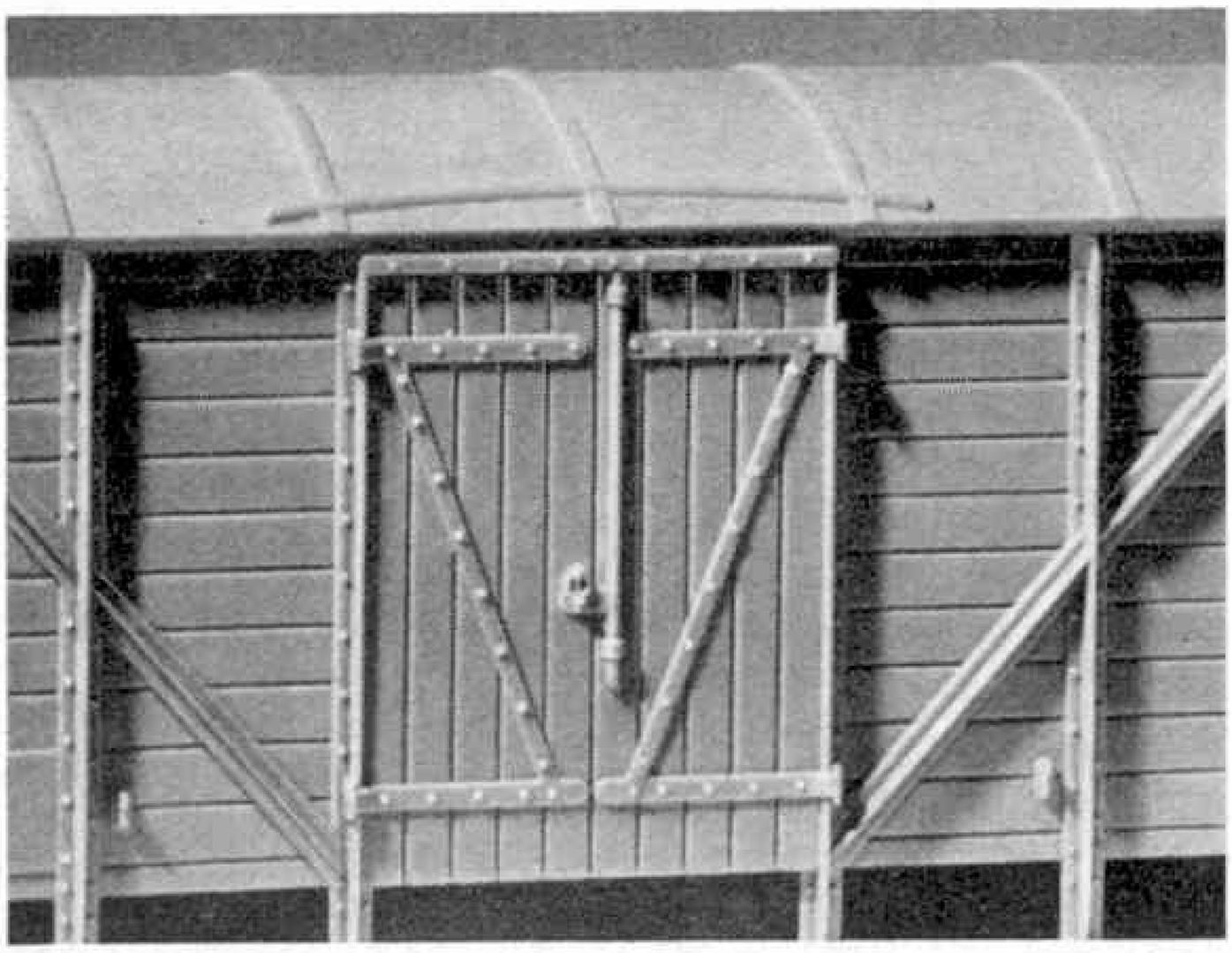
fine Goods Brake can be obtained separately, as you will see from the advertisement pages in this issue. Those of you who are Western Region followers will lose no time in getting one, and many who are not will follow suit, for this is really something the model railwayman just cannot do without. It is the first SD6 Goods Brake Van to be introduced and it has the hall mark of the characteristic W.R. Goods Brake Van, with its long wheelbase, and a long verandah at one end only.

The moulded form of construction that distinguishes the SD6 vehicles is shown to excellent advantage in this model. The planking, strapping, handrails and so on are represented in beautiful relief. The plain areas of the lower body sides, where the real vans are plated with steel to a depth of three or four planks, and of the "walls" of the verandah section, with the T-strapping and the bolt heads in fine relief, are in striking contrast to the planked areas, which include the partition forming the end wall of what is really the guard's "house". Even this has its doorway correctly represented, with a minute handle in relief.

The comfort of the goods guard seemingly has not been neglected in the miniature, for the stove chimney that projects through the roof is well modelled, and is in the correct off-set position, just like the real thing.

At each end the roof has the characteristic cross battens that are a feature of many Swindon vans and the finish is in B.R. grey and white lettering. As is customary on many W.R. goods brakes, the name of the depot to which it is allocated appears on the sides, in this instance *Southall*. Beneath it is that typical Western marking *R.U.*, which stands for "*Restricted User*", meaning that the van should be confined to Western Region duties, although this restriction is not always observed in actual practice!

So there you have a fine Goods Brake, running on moulded disc wheels, suitable for long hauls or local trips. It is a fitting companion for the finely detailed SD6 vehicles that have preceded it. And others, to the same very high standard, are to follow; it will be a pleasure to tell you about these when the time comes.



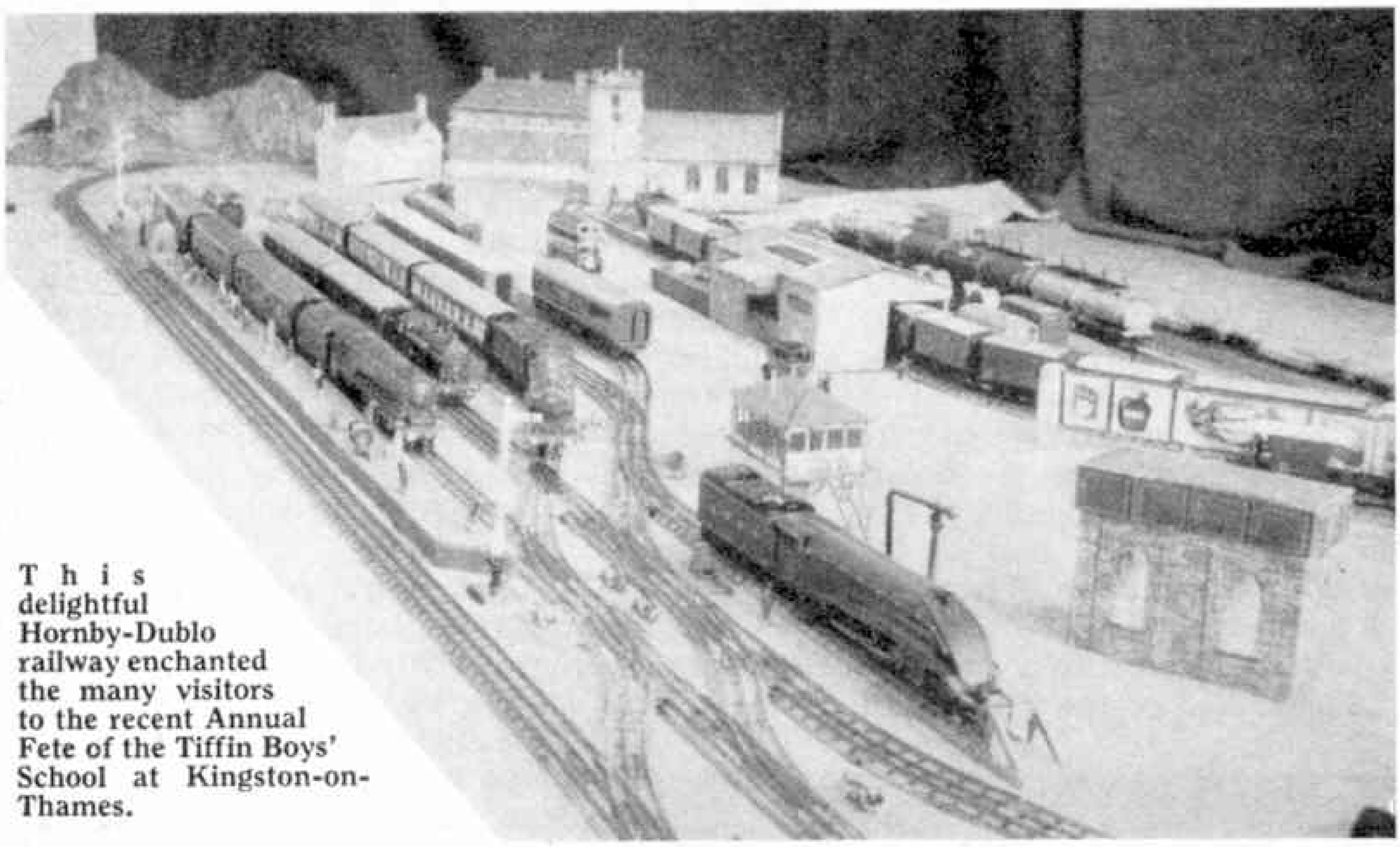
Super detail is scarcely a good enough description of the SD6 vehicles. Just look at this close-up of the new SD6 12-ton Goods Van as an example of their wonderful appearance. The doors seem ready to open!

School Treat!

Nearly 200 Coaches and Wagons on One Layout

By "Layout Man"

THE Hornby-Dublo railway seen in the picture below, which is from a photograph by R. G. Weatherhead, fascinated the 2,000 people who visited it on the occasion of the Annual Fete in Tiffin Boys' School, Kingston-on-Thames, where it formed part of the Hobbies Exhibition. That it did so was a just reward for our friends at the School for their early start and good planning. They began designing many months in advance of the occasion, and only after many trials and experiments were they satisfied that they had got the layout they wanted.



This delightful Hornby-Dublo railway enchanted the many visitors to the recent Annual Fete of the Tiffin Boys' School at Kingston-on-Thames.

The view above shows only part of the railway, which was developed to include virtually a double track throughout, with stations at different points. One great attraction to onlookers was a gradient section along one side, effectively crowned by a Hornby-Dublo Girder Bridge, and they greatly enjoyed seeing the trains running steadily and well up the incline.

Inside the main running lines was an inner continuous track running parallel to them. There was an oval at each end of this inner section, and these encircled an effective station and a siding system. One of the station layouts is that shown in our picture and the goods sidings associated with it can be seen in the right-hand background.

The oval systems were complete and self-contained, and as the stations were of terminal type a Hornby-Dublo Turntable was placed within each of them. In addition there was an S-shaped reversing loop, so there was never any difficulty in turning an engine just as soon as it was wanted to change direction of running. There were no derailments or other mishaps, so the track laying must have been of a high order, although it was not practicable to screw down the rails, and running was intensive. The operating arrangements had a good deal to do with this as well. The whole system was made up of four main circuits for the benefit of the various operators, who were accommodated in a space 6 ft. square left in the centre, where they had a good view of the trains.

There was certainly plenty of good running, for 20 engines were mustered for working the traffic. There were 80 passenger vehicles, including Restaurant Cars and T.P.O. Vans, these being made up in set trains of four or five coaches for main line runs. Goods stock ran to 100 vehicles, including examples of the latest SD6 stock with moulded bodies. Complete trains of Cattle, Coal and Tank Wagons were assembled, in addition to more varied trains for miscellaneous freight traffic.

Club and Branch News

WITH THE SECRETARY

THOSE SUMMER SNAPSHOTS

My illustration this month is an excellent example of the kind of informal outdoor photograph that summer Club and Branch outings make possible, and which I am always delighted to receive.

I feel sure that on many outings this summer the alert photographers in other Club and Branch parties will have seized their opportunities of getting happy group photographs, and I hope that they will send me prints of the best of them for possible use on this page. Such reproductions give great pleasure to the Clubs or Branches concerned, and are of interest throughout the Guild or H.R.C., as the case may be. So send me those prints, please!

MECCANO CLUB RECENTLY AFFILIATED

SLOUGH AND WINDSOR M.C.—*Leader:* Mr. H. Kirkby, 20 Wexham Road, Slough, Bucks.

H.R.C. BRANCHES RECENTLY INCORPORATED

No. 568. WADDINGTON—*Chairman:* Mr. D. C. Hall, 8 Lincoln Drive, Scampton, nr. Lincoln.

No. 569. SILVER ROAD (NORWICH)—*Chairman:* Mr. N. F. Smith, 13 Broom Avenue, Thorpe, Norwich.

No. 570. SLOUGH AND WINDSOR—*Chairman:* Mr. H. Kirkby, 20 Wexham Road, Slough, Bucks.

PROPOSED H.R.C. BRANCH

EGHAM (SURREY)—Mr. J. Herbert, c/o 58 South Avenue, Thorpe Lea, Egham, Surrey.

CLUB NOTES

ST. THOMAS (EXETER) M.C.—Model-building is on a reduced scale during the summer, with smaller and less complicated models being constructed. *Secretary:* D. Morgan, 33 Cowick Road, St. Thomas, Exeter.

MILE END (PORTSMOUTH) M.C.—At one meeting Mr. Marten gave another interesting talk on *Photography*, which was tape recorded by B. Pilcher and played back. Questions were asked and answered. Then B. Pilcher gave a talk about *Tape Recording and How It Works*, and one member made a recording of the forthcoming Club programme and this in turn was played back. *Secretary:* Mr. A. J. Nicholson, 213 Sultan Road, Buckland, Portsmouth.

INDIA

MYSORE M.C.—Members have been busy preparing for the Club's fifth Anniversary. A party of members led by the Secretary are going to Bombay, about 750 miles from Mysore, on a 12-day educational tour. During the tour it is hoped to visit a motor car factory, oil refinery and other industrial plants, if permission can be obtained. Table tennis continues to be popular, and Mr. N. Dwarakanath, a senior member of the Club, who is also the chess champion of Mysore State, is giving lessons in chess to members. *Secretary:* Mr. M. N. Radhakrishna, 16 Mothikhana Building, Santhepet, Mysore, India.

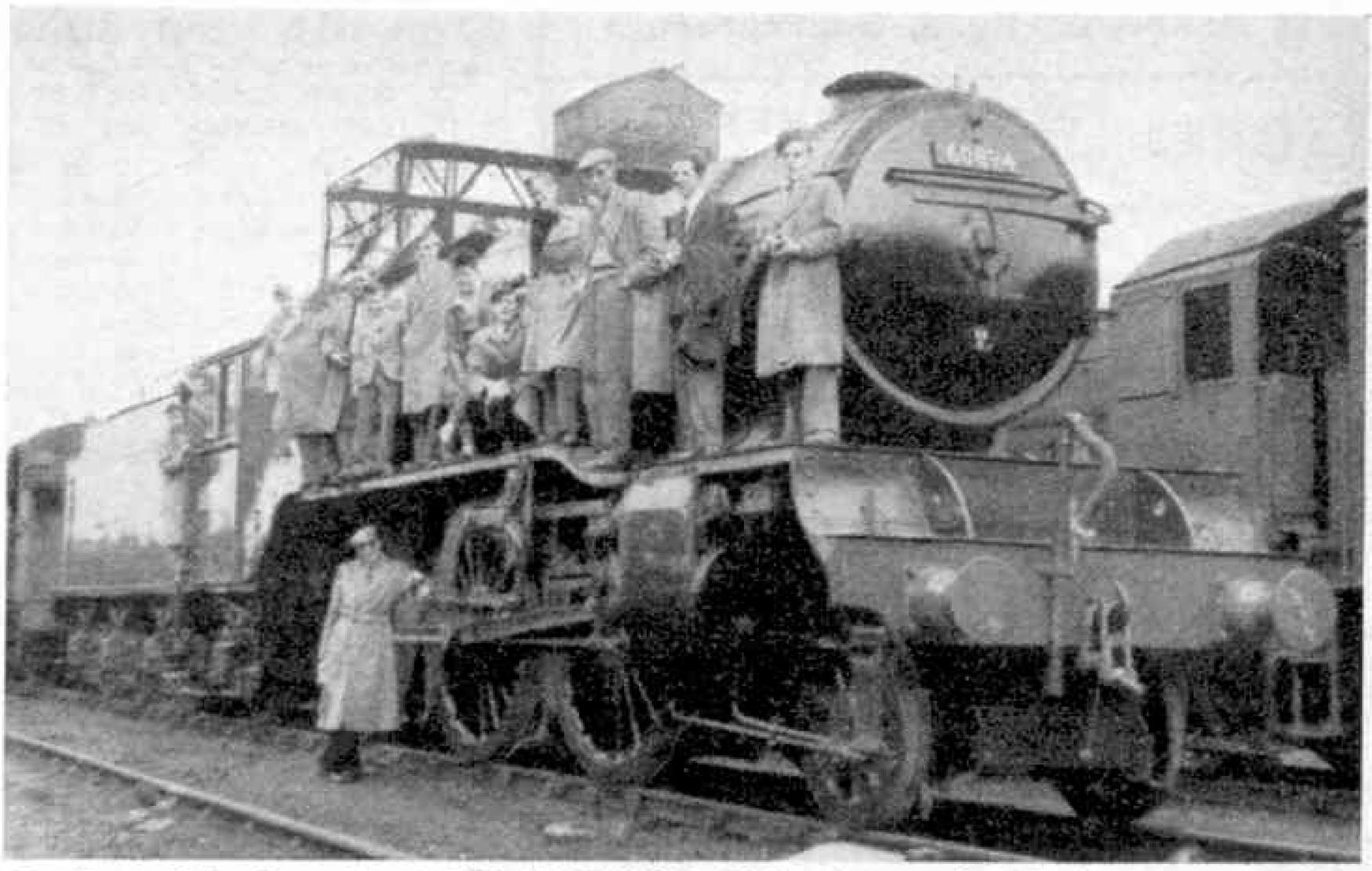
BRANCH NEWS

FEATHERSTONE CASTLE (HALTWHISTLE).—The Branch Chairman, the Secretary and eight other members visited the Carlisle Railway Exhibition, where the display included a model of the *Rocket*, the Royal coaches of Queen Victoria and King Edward VII, and coaches containing exhibits of old railway relics, etc. *Secretary:* F. N. Clark-Lowes, Hillbrow School, Featherstone Castle, Haltwhistle, Northumberland.

WESTON-SUPER-MARE BOYS' GRAMMAR SCHOOL.—Members have been busy developing a layout for display at a School fete. The layout will include three running tracks and, it is hoped, a marshalling yard. It will be operated by members taking half-hour turns at the controls. Scenery is being made for the layout. *Secretary:* D. Hough, "Overhill", Lower Down Road, Portishead, nr. Bristol.

POTTERS BAR.—The interesting summer outdoor programme arranged includes cycle runs, and outings to Stratford Motive Power Depot, and Colwick, etc. The Secretary has made a duplicating block, with which copies of the Branch magazine are being "printed". *Secretary:* R. Woods, 120 The Walk, Potters Bar.

MILE END (PORTSMOUTH).—The Branch room was closed for one week for re-decorating, and it is now bright and attractive. At the time of writing, indoor activities consist mainly of preparations for a two-day Exhibition. *Secretary:* A. H. Firman, 171 Fratton Road, Portsmouth.



Members of the Consett and District Y.M.C.A. M.C. photographed during a recent visit to the B.R. Motive Power Depot at Darlington. They are seen aboard V2 2-6-2 mixed traffic locomotive No. 60894, which they had been inspecting. At ground level Mr. J. R. Goodrum, their industrious Leader, poses against the engine's valve gear.

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2. **INDIA**—1956 Map set of 9 with new currency.
3. **BRAZIL**—Midget Leprosy set of 2.
4. **ARGENTINA**—Eva Peron set of 4.
5. **SPUTNIKS—GERMANY & CZECHO.** Space stamps.
6. **RED CHINA**—Canton imperfs. Set of 5.
7. **POLAND 1953**—2 Navy commemoratives. (Set)
8. **CANADA**—Queen Elizabeth portrait set of 5.
9. **CHILE**—Pre-war high value Pictorial set of 5.
10. **ALBANIA**—Semi-official Revolution set of 5.
11. **GERMANY**—5 plan provisions set of 7
12. **MYSTERY SET OF 13.**

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25 diff.		S. Africa	2/6	Norway	3/–
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Stamp Collectors' Corner

By F. E. Metcalfe

DOWN TO THE SEA IN SHIPS

Last month we were concerned with "Sports" stamps, which today are very popular. But I think their popularity is exceeded by that of stamps depicting ships. This is not to be wondered at, for by the sea we British live.

I decided to write about "Ship" stamps this month after a conversation I had recently with a dealer. I happened to be with him when in came a young collector, to buy a short set of the Israel issue recently released in honour of its Mercantile Marine. It will be remembered that I referred to this attractive set recently, and mentioned in passing that a short set could be bought for a few coppers.

After the youngster had departed, the dealer sighed and remarked that someone had said that there are a million stamp collectors in Britain. There must be, he added, and most of them had probably bought a set of Israel ship stamps, for as long as he had been in business he had never seen a set sell like it. I reminded him about the way the King Edward VIII set overprinted for the Morocco Agencies sold away back in 1936. I had actually seen almost a queue formed up in his shop when the set was put on sale. But he assured me that he had sold twice as many sets of Israel.

Moreover, Greece had brought out a rather similar set, and this also looked another star seller. He went on to explain further, that any stamp sells well today if it shows a ship or has a nautical design. Foreign post offices keep a close watch on what is in vogue, and others too will be bringing out ship stamps. And already there is no shortage. I know of one collection that takes several albums to house it, and as no doubt there will be a number of *M.M.* readers who will perhaps be considering joining up with the "shippers", a few words about this particular collection may not be out of place.

Actually it is owned by a Liverpool collector — quite appropriately, for ships are bread and butter to this great port. It has taken a number of years to form and has been shown in many places, to the great delight of most of those lucky enough to see it. It is the way in which it has been put together that is of great interest, for not only has the collector mounted a stamp or stamps showing a ship, but where possible he has obtained a photograph of the ship depicted. He has written hundreds of letters of enquiry to find out the names of the ships concerned. Then he has painted little sketches, with the result that his collection is a delight, to collectors and non-collectors alike.

I don't say that we could all do as delightful a job, but if we would take a little trouble then we could produce something worth looking at, and there would be none of those yawns, politely hidden behind a hand, that can be noticed so often when we want to show our collections, so proudly, to someone who only thinks of stamps as something to stick on a letter.

All this is the reason why I am so much against albums with spaces left in which to stick stamps. They are all right for a start, but no matter how big the printed album may be, and no matter how expensive the stamps are, such a collection, lacking as it does all individuality, can never hold a candle in appearance to one made on lines similar to the one I have described. This is not only a good collection, but also is stamped with its maker's individuality.

So far your ship stamps get an album with faint or feint lines, which are an aid—and nothing more—to the arrangement of stamps according to your taste. Try to find out the names of the ships on the stamps—these often appear on the stamps themselves—and print or write in as neatly as possible any details you can gather.

What about the stamps themselves? There are plenty of these, and more are coming out the whole time. We had, for instance, that Black Star Line issue for Ghana recently, about which I wrote at the time of issue. Many of you no doubt have this set already. Still, it is a bit on the dear side, for the face value is rather high, so I do not recommend you to buy one unless you are well in funds. After all, it is not necessary to spend a lot of money on these "ship" stamps; that is not the idea at all.

The short set of three values of the Israel issue is a must, and you really cannot ignore the Greek issue I have mentioned. A used set will be the cheapest way to buy this one, but I am not particularly keen on used ship stamps, which are mounted for appearance only. So if you do go in for a used Greek set, take care to see that the stamps have only the lightest of postmarks. This applies of course to other used "ship" stamps, and the cancellations certainly should not impinge on the design of the ship itself.

In December, Poland issued two stamps to commemorate the birth of Joseph Conrad. Try to get the 60gr. value. It will only cost a few pence. Apart from featuring Joseph Conrad himself, it shows the sailing ship *Torrens*. This stamp lends itself to quite a nice bit of writing-up.

About the king set of the lot, as far as our own Commonwealth stamps are concerned, is that issued for the Falkland Islands Dependencies in 1954. Each values from ½d. to £1 depicts a ship that has had Antarctic connections. What a magnificent set this is. Even if you only want to spend a shilling or so you can buy about five values which, (*Cont. on page 456*)

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For other Stamp Advertisements see also pages 452 and xx

Stamp Gossip

THE STARS AND STRIPES

A young collector who is interested in stamps with flags on them, and has been given a Liberian stamp, has written to tell me that he was surprised to find that the flag flying to the right of a building on it was the "Stars and Stripes" of the U.S.A. Actually there is only one star and the flag is that of Liberia.

Incidentally the stamp is part of a set of six—four ordinary and two air stamps—that was issued last November by Liberia to commemorate the Inauguration of the Antoinette Tubman Child Welfare Foundation. The stamps are quite attractive, and as the object of their emission is a worthy one all's well all round.

FRANCISCO GOYA

Today Spain's stamps are equal to the best. A good example is the set issued in March to honour the great artist Goya. The Day of the Stamp came into it, but it was really the painter who was being honoured, and rightly so.

I suppose that I am a bit prejudiced in favour of Spain. Knowing the people well and speaking their language, I have learned to respect and like them, as well as to love their beautiful country, so I suppose I see their stamps through rosy spectacles. But this set is certainly a beauty. Mint, it costs not more than four shillings, but a used one can be bought for less; and for this small sum you get a miniature picture gallery of real charm, all to do with one of the world's greatest painters.

No doubt some readers will get round to Madrid this year. Any who do will miss the thrill of their lives if they fail to visit the Prado, where there is such a fine collection of Goya's paintings. I was once asked which were the two greatest experiences I ever had in connection with things created by man. I could answer at once. The first was the huge gallery in what used to be the Sultan's palace, now given up to Greek statuary, in Istanbul, the second the Prado in Madrid, where there is such a glorious display of paintings. And I have been in many parts of the world.

Do buy that Goya set. All the stamps are framed in gold, and every value is full of fresh interest always.

WRITE THAT LETTER

It seems to be an idea here in Britain, in our Post Office at any rate, that a postage stamp has one purpose only, and that is to pay postage. The rest of the world has long since realised that stamps can play a most effective roll as publicity agents, and so stamps are being used to further all kinds of plans and ideas.

One stamp illustrated was issued by Syria last October to publicise the International Correspondence Week, and I am sure that it would prove useful indeed to that end. The design depicts a whole family getting on with the letter writing job. Incidentally, it is an air stamp, as can be seen if the letters "P.AER" which appear under the value are studied.

Say what you will about special stamps, but when one day our own Post Office follows the lead of the rest of the world, and new and attractive stamps are issued regularly, there will be an awful lot of fun seeing what is coming out next.

"HEALTH" STAMPS

I suppose that about the most popular commemorative stamps in the whole British Commonwealth are the annual Health issues of New Zealand. They are always very attractive, of moderate face value — a substantial percentage of which goes to children's charities—and freely obtainable, so collectors just love them.

This year the issue was made on 20th August. One of its two stamps, 2d. and 1d., depicts a strapping Boy Scout. The other, 3d. + 1d., shows a comely Girl Guide, and is illustrated. I was very glad to see that Mr. J. Berry was once more the artist responsible for the designs, for in the past he has provided some really attractive stamps. None of your abstract art for him. He doesn't need it, for he has really learned to draw.

Once more there are Miniature Sheets, that is small sheets of six stamps, with attractive borders, and all who can should go in for these modestly-priced sheets, for they make a fine page in one's collection. Those issued last year, with the watermark upright, are worth about £1 now. Incidentally, the new sheets are listed in the Commonwealth Catalogue just out, so that gives them status.

There can be no more worthy stamps than the New Zealand annual Health issues, and they deserve support.

TIP OF THE MONTH

You have all seen the Australian 2/– stamp, issued a few months ago for the Qantas world flight. Well, make sure that you get copies, both mint and used, for while in both states the stamps can still be bought at very little over face, as time goes on I think that their value will appreciate quite a bit. However, make sure that the used is a nice copy, and not one spoiled by a horrible cancellation. If you can get one of the special covers used in the flight so much the better; but if not, don't worry, the stamp itself off cover will be quite worth having.

Blowing up an Undersea Mountain—

(*Continued from page 414*)

shores were deluged with rock and water. Behind the burst a 25 foot tidal wave was rushing northward up the channel, wrecking the Quadra boat landing and washing out a good part of the causeway.

At the firing point the explosion registered itself as a strong earth tremor, followed by the air blast of the explosion. Then came a howling wind, and as the estimated 370,000 tons of rock and 320,000 tons of water blown into the air settled back into the ocean, a heavy rain started, to the great delight of the attendant meteorologists! Where Ripple Rocks had been the waters churned for a few minutes more and then settled down into the fast morning ebb tide—and the ripples had gone.

At low tide a few hours after the explosion the hydrographic ship *Parry* steamed over the place where Ripple Rocks had been, and her echo sounder registered 47 feet of water under her keel, 17 feet more than had been planned for. Later still, the first merchant ship through recorded 56 feet at the same spot, and it is hoped that the tides will carry away even more shattered rock in the months to come.

Road and Track—(*Continued from page 419*)

Colin Chapman to become a director of Speedwell Conversions Ltd. that Graham became one of the regular Lotus drivers. Now Hill and Allison with the Hornsey-built cars are a part of every Grand Prix.

With the new Formula I Lotus under development, and not raced until the French G.P. in July, there has not been much opportunity for Graham to show his paces. But when the Climax-engined F.I. Lotus is running satisfactorily, which I hope will be at Monza, if not before, then Graham Hill is almost certain to be snapping at the heels of the leaders and causing as much embarrassment to Vanwall, B.R.M. and Ferrari as Salvadori and Brabham in their remarkable Cooper-Climax F.I. cars.

Incidentally, the distinctive colours on Graham Hill's helmet are those of the London Rowing Club, for whom he stroked at Henley. He is an international oarsman and a very good rowing coach as well. It is perhaps not surprising that during the practice sessions for the French G.P., Graham Hill was much more concerned about what was going on at Henley than in the prospect of competing against the cream of the world's drivers on the fast Rheims circuit.

The D.E.W. Line—(*Continued from page 427*)

the very infrequent supply ships. Now they can be reached by aircraft capable of "lifting in" complete mining settlements and "lifting out" concentrates until such time as roads and rails are driven into the North.

So mining men are planning to use their airfields to broach the incalculable mineral wealth of the North.

And the imagination of mining men is no less than that of the men who built the trans-Northlands radar chains. Did they not build, for example, a 360-mile railway across the uninhabited and largely unmapped barrens of Labrador to the North Labrador iron ore fields, now the most important in North America? That was a feat of imagination. Have they not accomplished a dozen or more equally imaginative feats, these last ten years?

Yes, they have. So we can expect Canadian mining men to employ the new radar networks of the Northlands, conceived for purely military purposes, for industrial development schemes calculated to benefit the whole world. As the Canadian Minister for Nothern Affairs, Mr. Robert Winter, once told me: "The speed with which Canada can develop industrially will depend on that at which we can develop our Northlands."

Easy Model-Building—(*Continued from page 433*)

8 of No. 12; 1 of No. 15b; 2 of No. 16; 3 of No. 22; 1 of No. 23; 1 of No. 24; 2 of No. 24a; 4 of No. 35; 44 of No. 37a; 40 of No. 37b; 2 of No. 38; 2 of No. 48a; 1 of No. 52; 2 of No. 90a; 4 of No. 111c; 2 of No. 125; 2 of No. 126; 2 of No. 126a; 2 of No. 188; 1 of No. 189; 2 of No. 190; 2 of No. 192; 2 of No. 200; 1 of No. 212; 2 of No. 214.

Parts required to build the Ox and Covered Wagon: 2 of No. 2; 4 of No. 5; 4 of No. 10; 1 of No. 12; 1 of No. 16; 1 of No. 17; 4 of No. 22; 25 of No. 37a; 23 of No. 37b; 1 of No. 38; 2 of No. 48a; 1 of No. 52; 2 of No. 90a; 1 of No. 111c; 2 of No. 126; 2 of No. 126a; 2 of No 142c; 2 of No. 189.

New Model for Outfit No. 6—(*Continued from page 445*)

independently to each of these. A ½" Bolt is passed through one of the 3½" Strips and on it are placed a Washer, a 1" loose Pulley, another Washer, a nut, the other 3½" Strip, a Fishplate, and finally another nut. These nuts are tightened against each other.

The car travels on its Pulleys along a length of Cord tied to the roof of the upper station and also to the Rod 8. The Cord must be pulled tight in order to support the weight of the car. Another length of Cord is tied to the Fishplate 30, taken over Pulley 29, around the ½" Pulley on Rod 7 and is then fastened to the Fishplate 31 of the car.

Parts required to build the Aerial Cableway:—12 of No. 1; 14 of No. 2; 4 of No. 3; 2 of No. 4; 8 of No. 5; 2 of No. 6a; 4 of No. 8; 4 of No. 10; 16 of No. 12; 1 of No. 15b; 2 of No. 16; 2 of No. 17; 1 of No. 19b; 3 of No. 22; 2 of No. 22a; 1 of No. 23; 2 of No. 24a; 1 of No. 34b; 5 of No. 35; 1 of No. 36; 119 of No. 37a; 101 of No. 37b; 12 of No. 38; 2 of No. 48; 8 of No. 48a; 2 of No. 48b; 1 of No. 51; 1 of No. 52; 2 of No. 53; 2 of No. 54; 3 of No. 59; 2 of No. 111a; 2 of No. 111c; 4 of No. 124; 2 of No. 126; 4 of No. 126a; 2 of No. 188; 4 of No. 189; 2 of No. 190; 1 of No. 192; 1 of No. 198; 2 of No. 212; 2 of No. 212a; 2 of No. 223.

Stamp Collectors' Corner—(*Continued from page 453*)

when nicely mounted, look really grand.

Turks Islands and Zanzibar also issued ship stamps fairly recently and you will find several that will cost very little. Incidentally, on the Zanzibar 15c. stamp there are vessels that have been described as sailing canoes. They are not canoes at all, but dhows, and many are the times that I have watched them coming into Zanzibar harbour.

And then of course we have the current Singapore set. Here certainly are ships galore, and again we need only spend a few coppers on a set of several values. Back to foreign stamps again, last year, on what is known as the *Day of the Stamp*, France issued a 12f. + 3f. stamp on which was depicted an 18th century felucca. A copy costs a little over a shilling today, but this is quite a nice little investment item, and it will be a shilling well spent. Don't forget to look at Argentina, for she has produced one or two nice items, all of which will be found illustrated in Gibbons Simplified Catalogue.

THIS MONTH'S SPECIAL ARTICLES

	Page
Ashford Activities .. .. by R. A. H. Weight	410
Blowing Up an Undersea Mountain .. .. by John Barras Walker	412
B.O.A.C.'s Junior Jet Club .. .. .. by John W. R. Taylor	415
The "America's Cup" .. .. by Arthur Gaunt	422
The D.E.W. Line .. .. by Frank Illingworth	425

"The Chief Scout of Uranus would like to shake hands—but for the moment he can't decide which left hand to use!"

Manager: "Now, now, Jones, what's this customer's complaint?"

Clerk: "It's not a complaint, sir. He wants two shoes that squeak in the same key."

* * * *

"I want a very careful chauffeur," said the prospective employer. "I want a man who takes no risks at all."

"I'm just the man for you," said the applicant "Can I have my salary in advance?"

* * * *

"You should have seen my performance," boasted the actor to his friend. "I had the audience glued to their seats."

"Wonderful!" retorted the other. "How clever of you to think of it!"

* * * *

Judge (addressing the little man before the bench): "So you're a locksmith? And what were you doing in a gambling den when you were arrested?"

Little Man: "I was making a bolt for the door."

* * * *

Teacher: "Now Tommy, can you tell me the feminine of 'Bachelor'?"

Tommy: "Yes, miss: 'Lady in waiting'."

* * * *

"You crook! When you sold me this farm, you told me I could grow nuts on it."

"You misunderstood me—what I said was you could 'go nuts on it'."

* * * *

Prospective Customer: "What's the difference between this year's model and last year's?"

Car Salesman: "The cigarette lighter is an inch closer to the steering wheel."

Fireside Fun

BRAIN TEASERS

CROSSWORD CLUES

Down

1. A vital juice.
2. Common to us all.
3. Very hard—and hard to get!
4. "Twixt and between."
7. There's metal in this.
9. "Gentle as the ——."
11. It's nicest when it's blue.
13. A meadow and a river.

Across

1. This is the lot.
3. If it's bright it won't be right.
5. Yes. But not in England.
6. A container of sorts.
8. Do this to make it greater.
10. This comes before 'Reason', as the saying goes.
11. Perceive.
12. A night hunter.
14. If you did you weren't walking!
15. Why-e-ess.
16. Do this to change the colour.

* * * *

AN ALPHABETICAL SUM

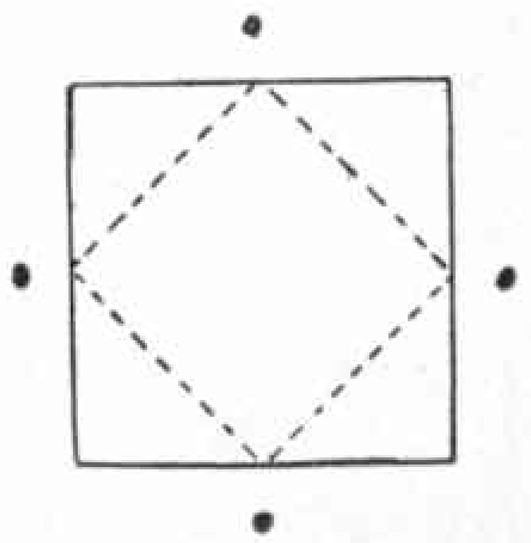
In the sum below all the figures are represented by different letters. Can you solve the code and find the answer to the sum in pounds, shillings and pence?

£	s.	d.
BE	C	D
C	CC	CC
CD	A	A

* * * *

ANSWERS TO LAST MONTH'S PUZZLES

The Pool Puzzle: The pool was enlarged in the manner shown in the diagram alongside, and the four trees were left in their original positions.



Whatever is it: The answer is a Walnut.

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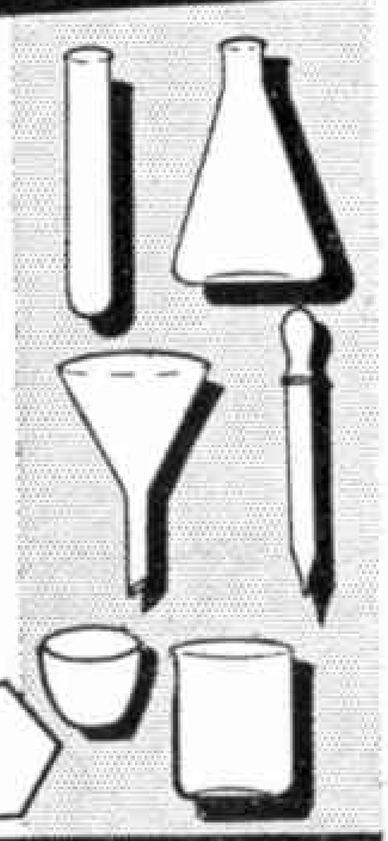

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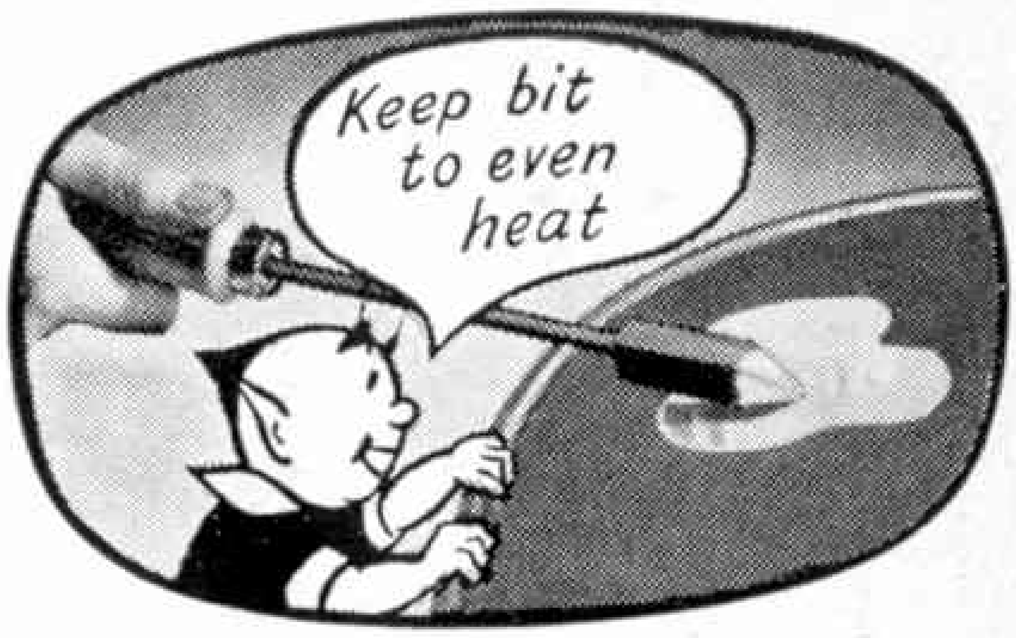

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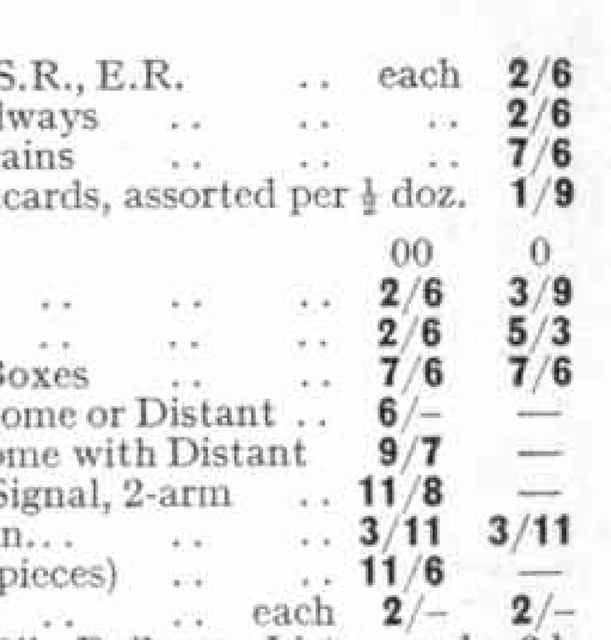

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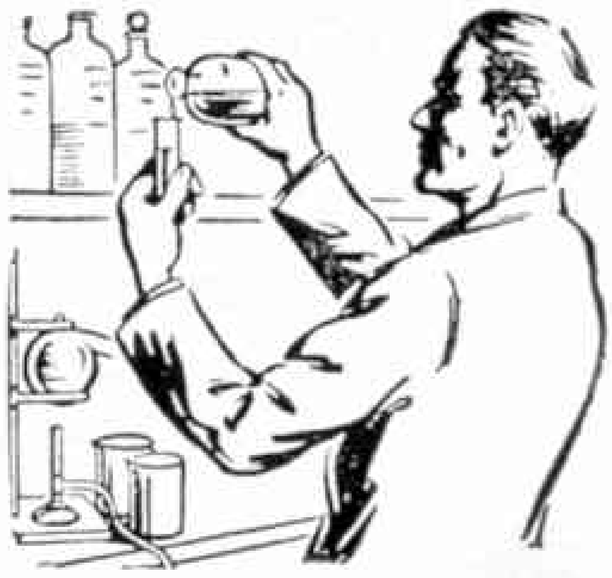

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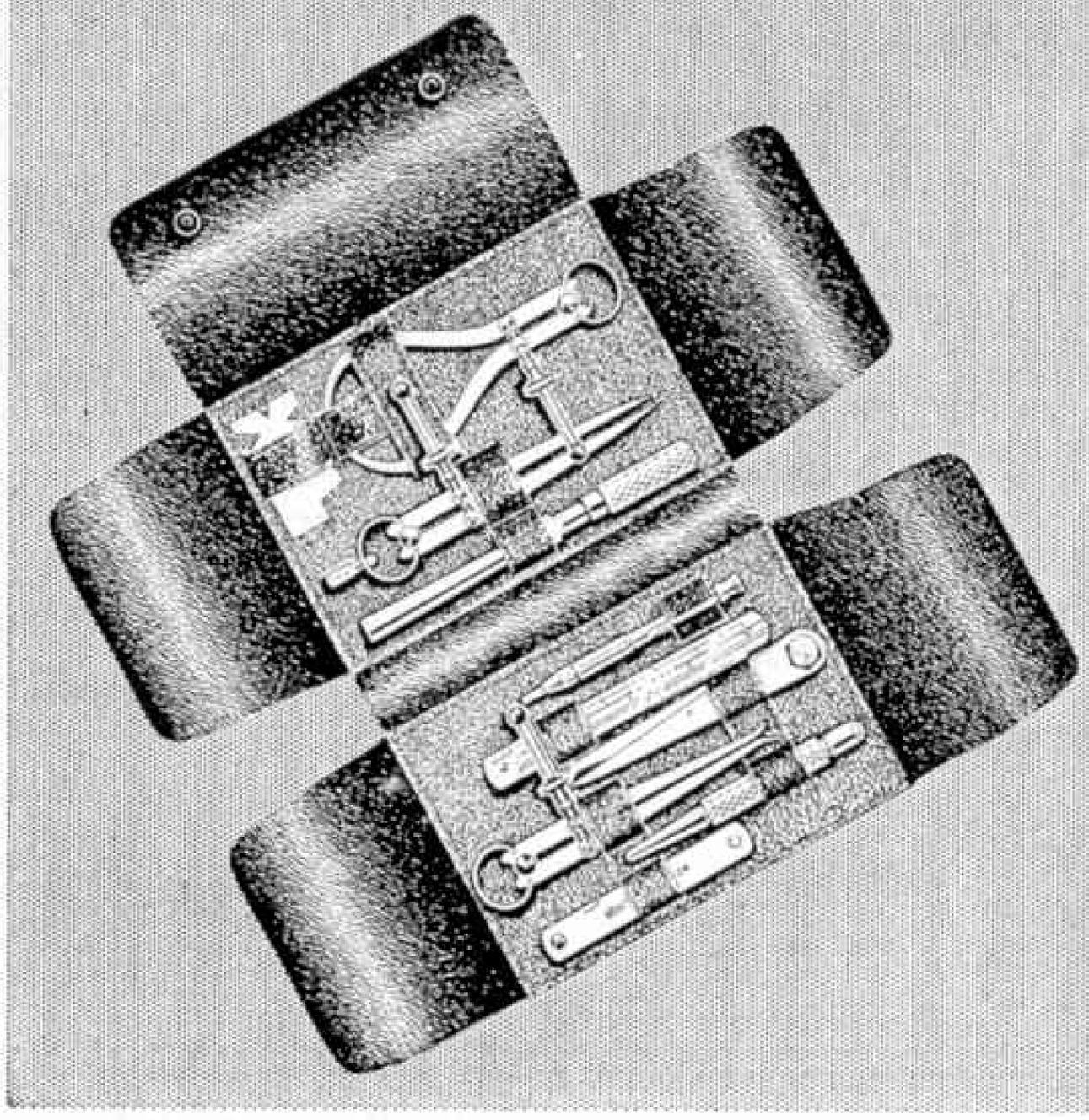

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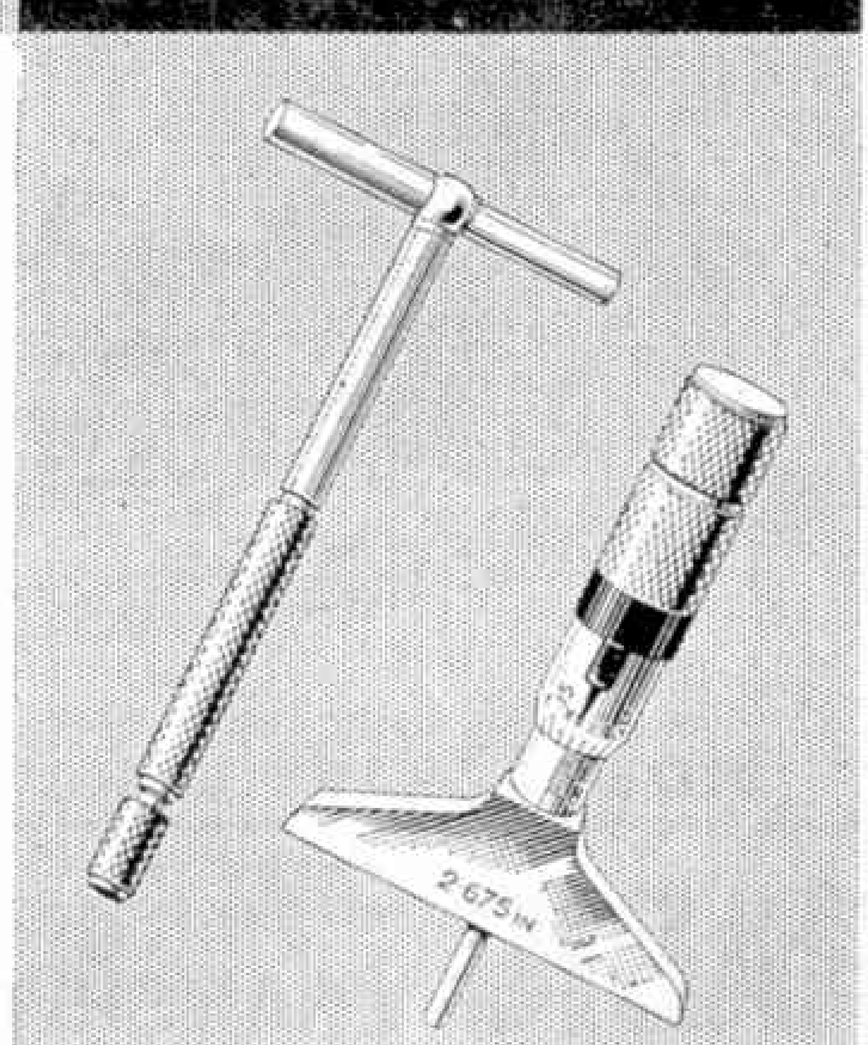

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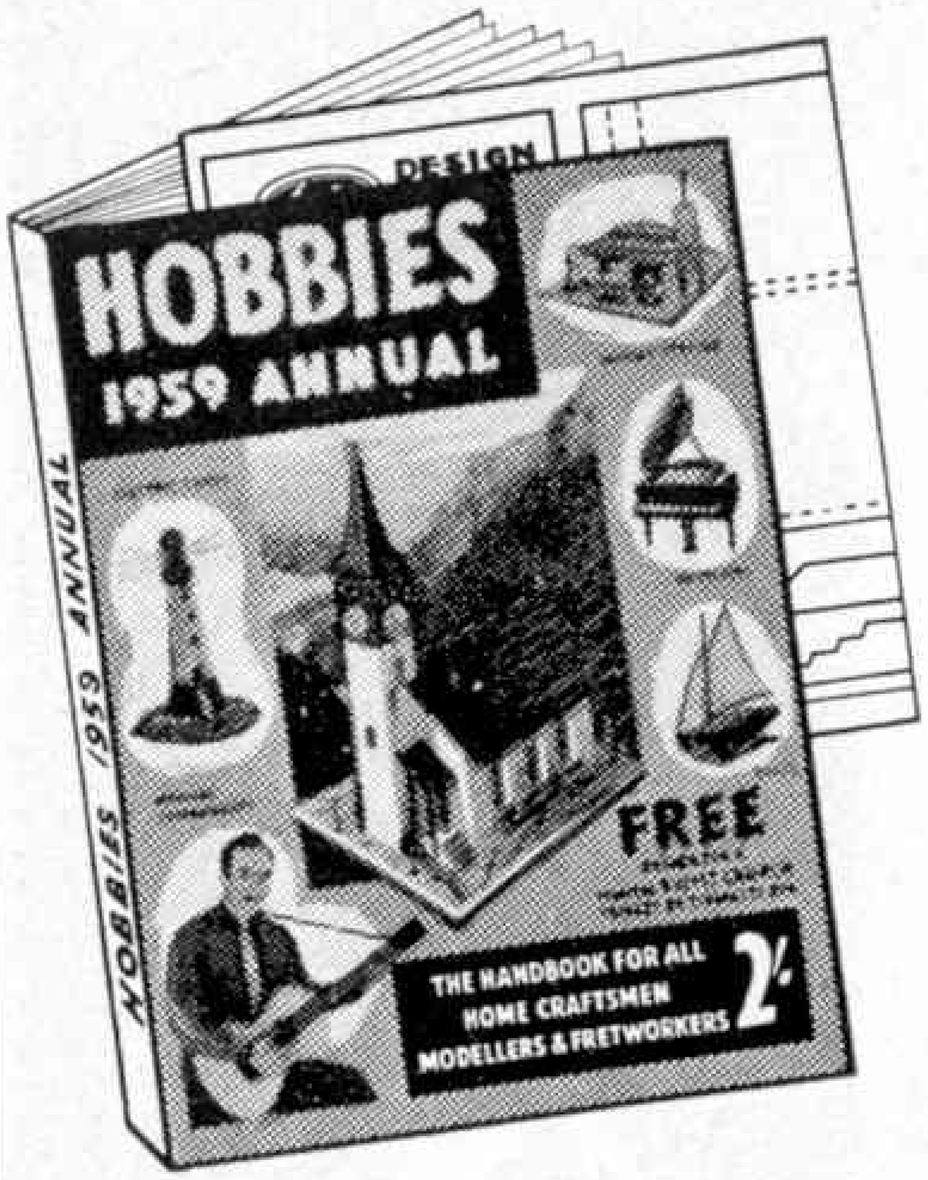

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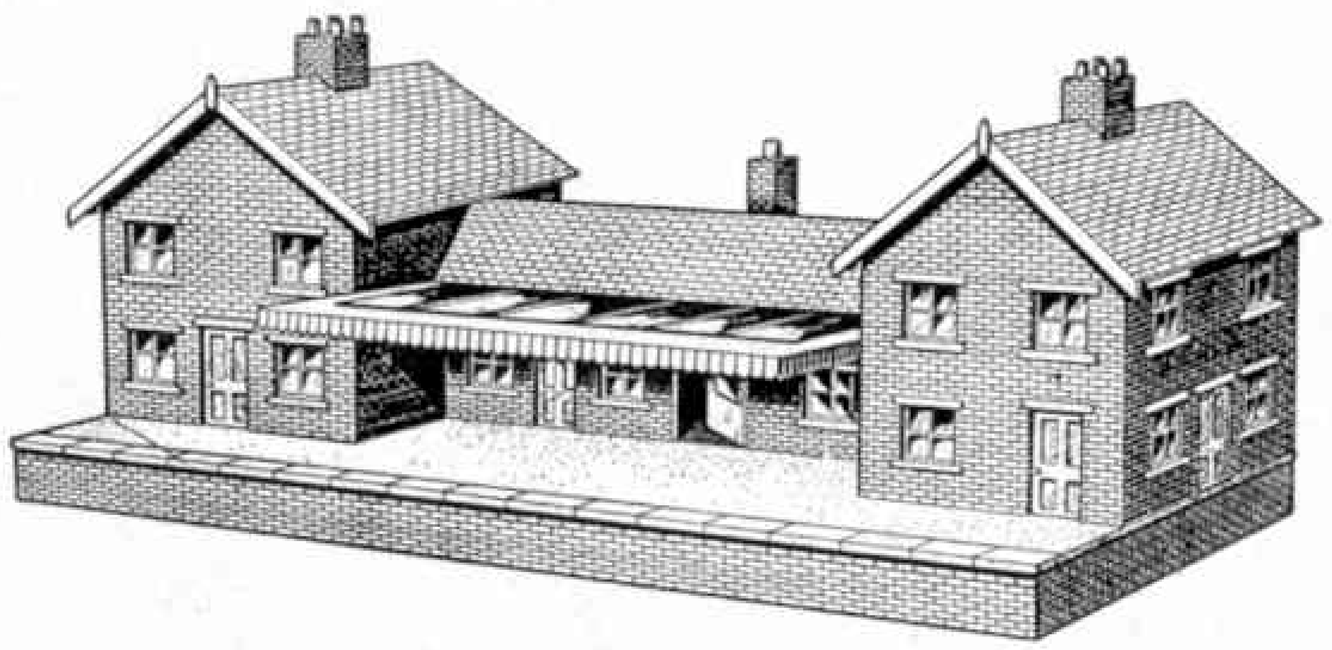

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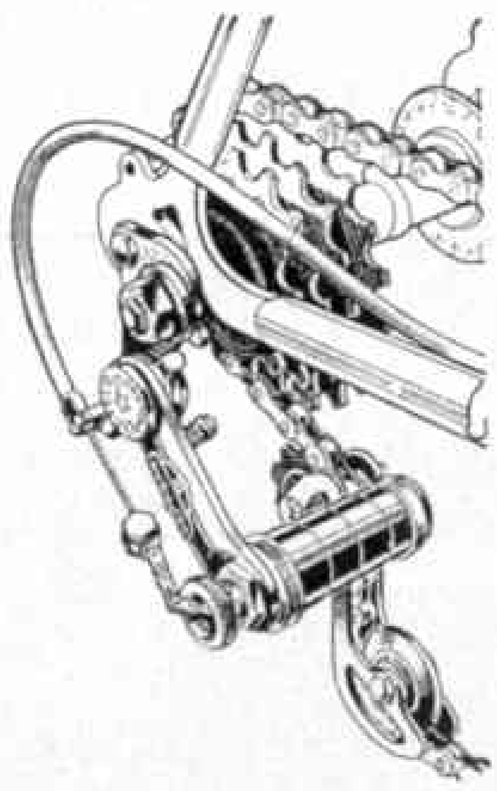

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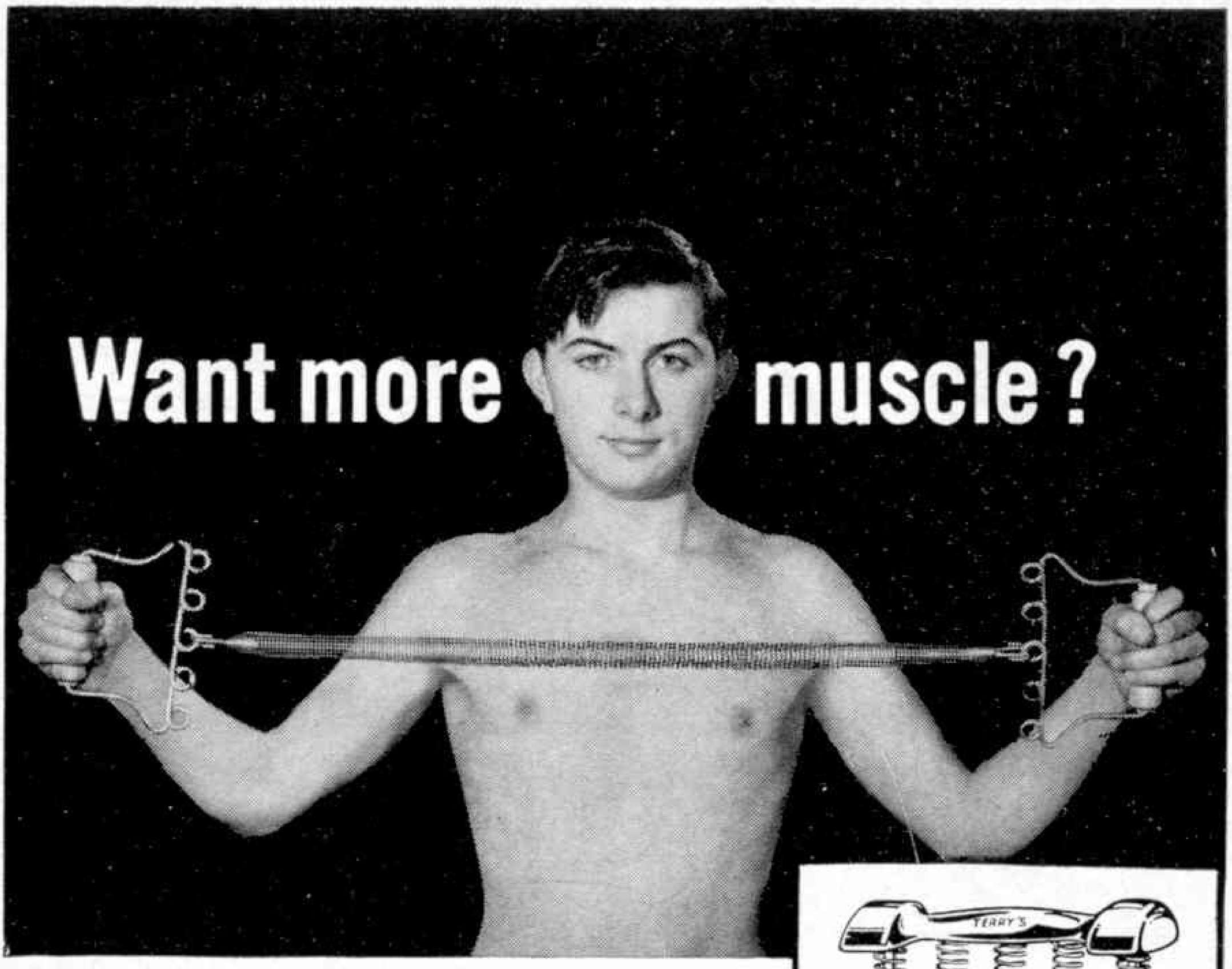

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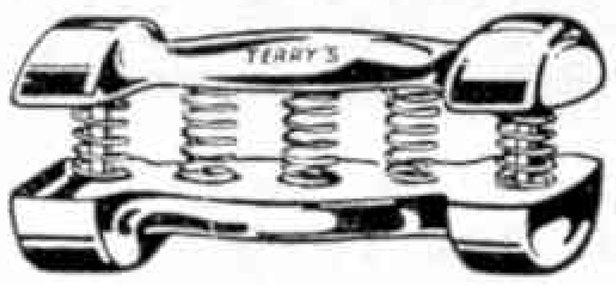

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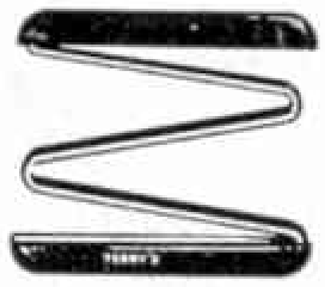

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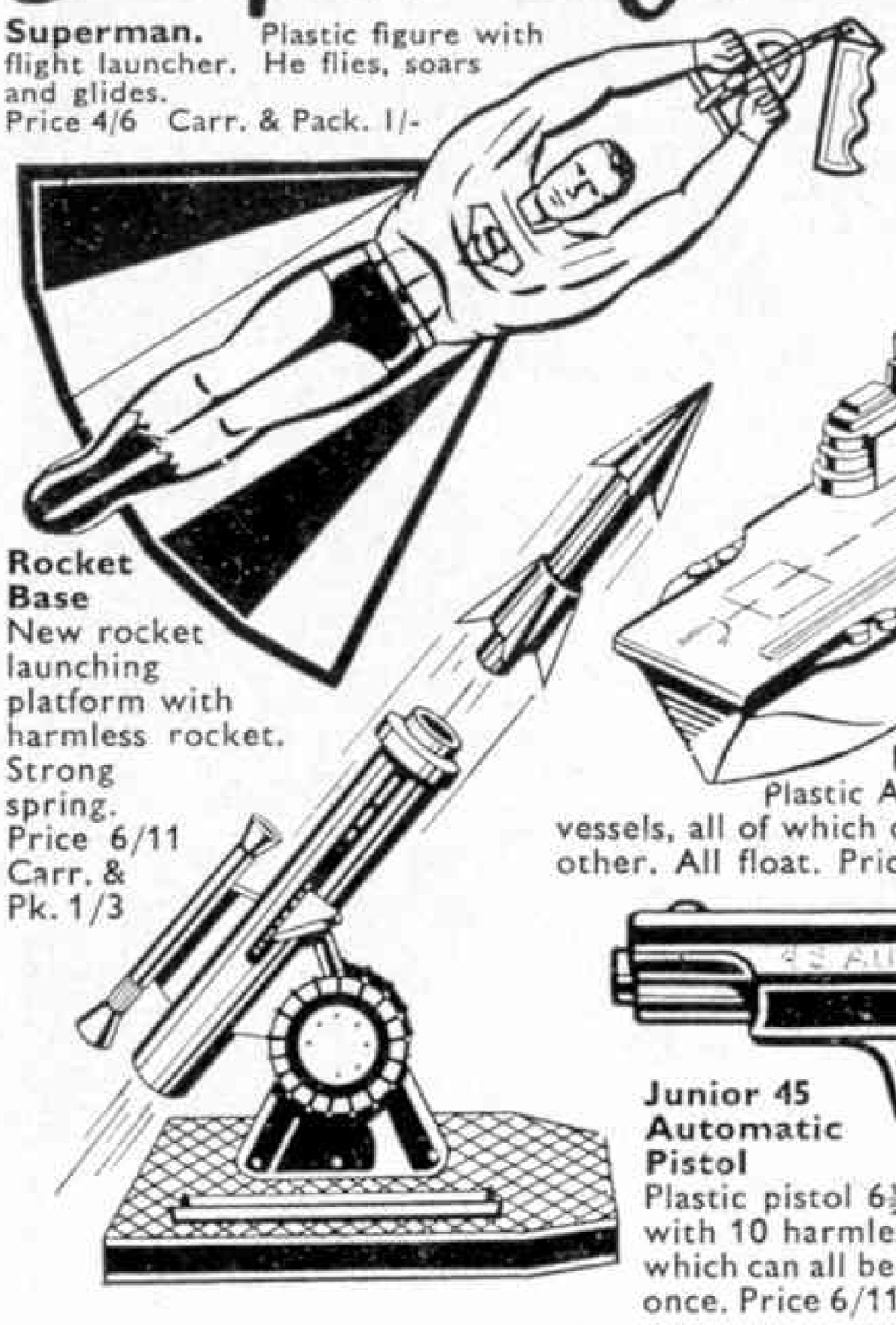

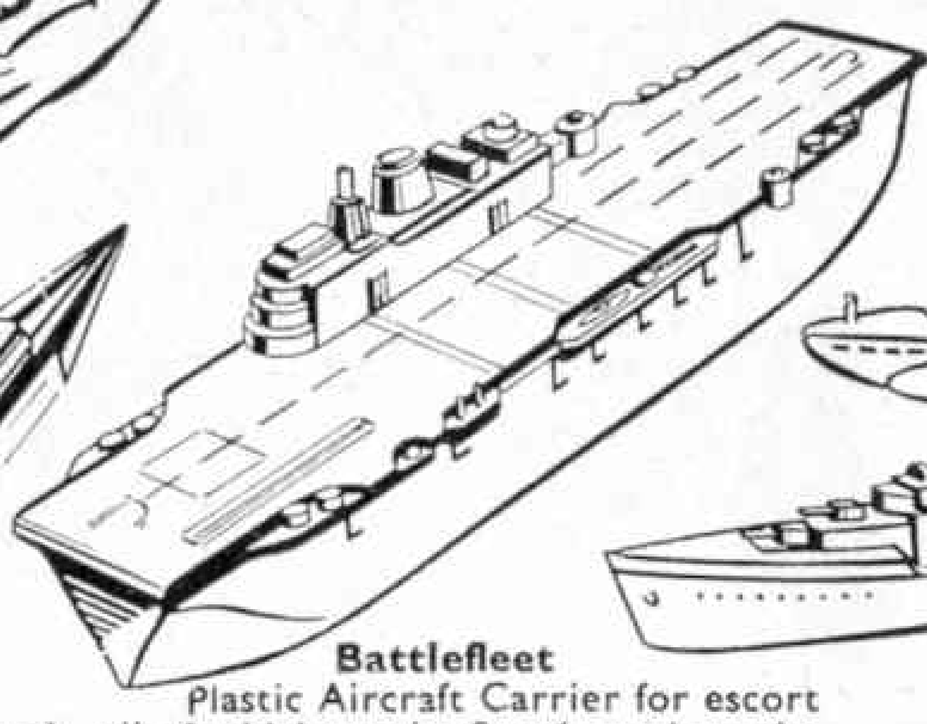

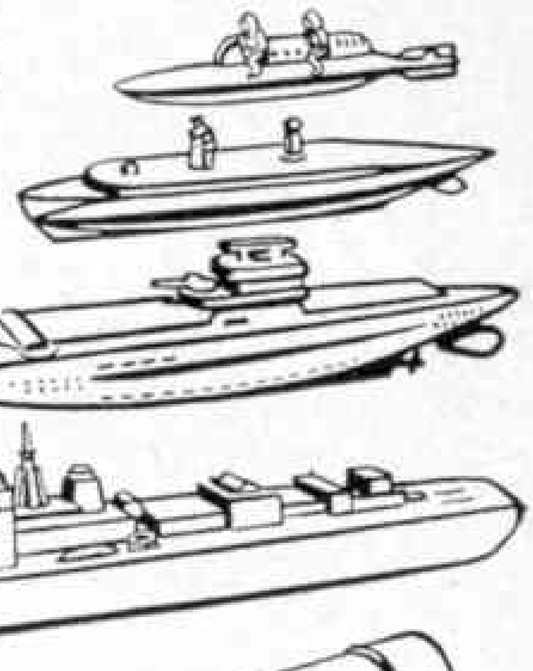

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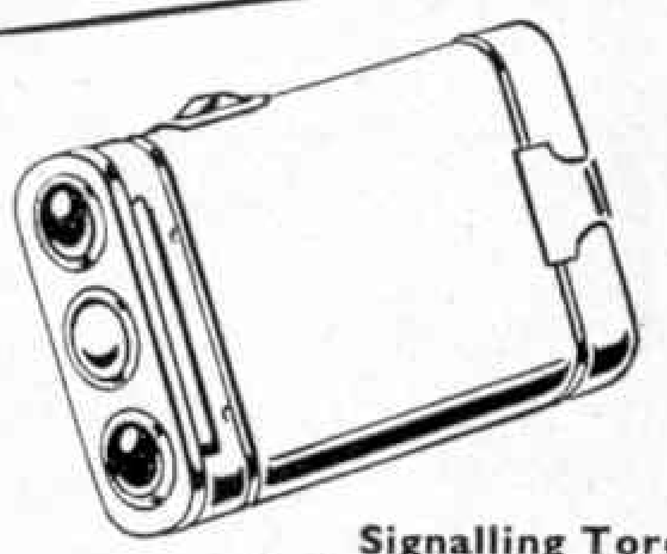

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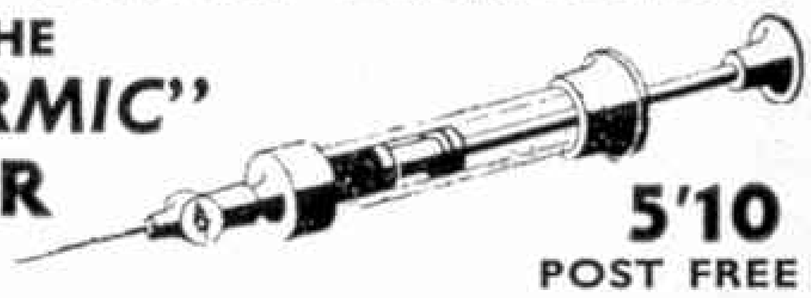

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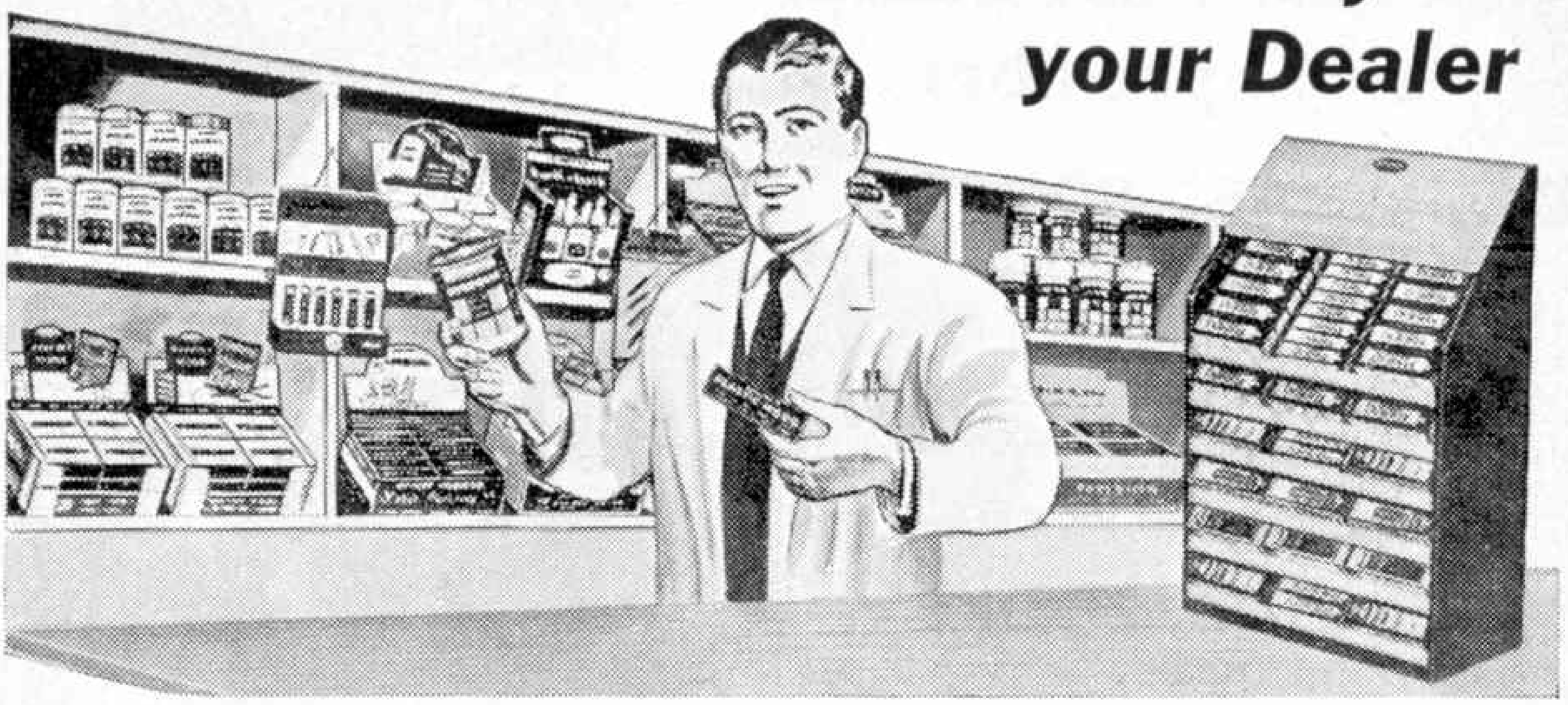

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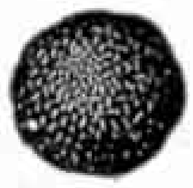
HOW RUBBER WAS  FIRST DISCOVERED?

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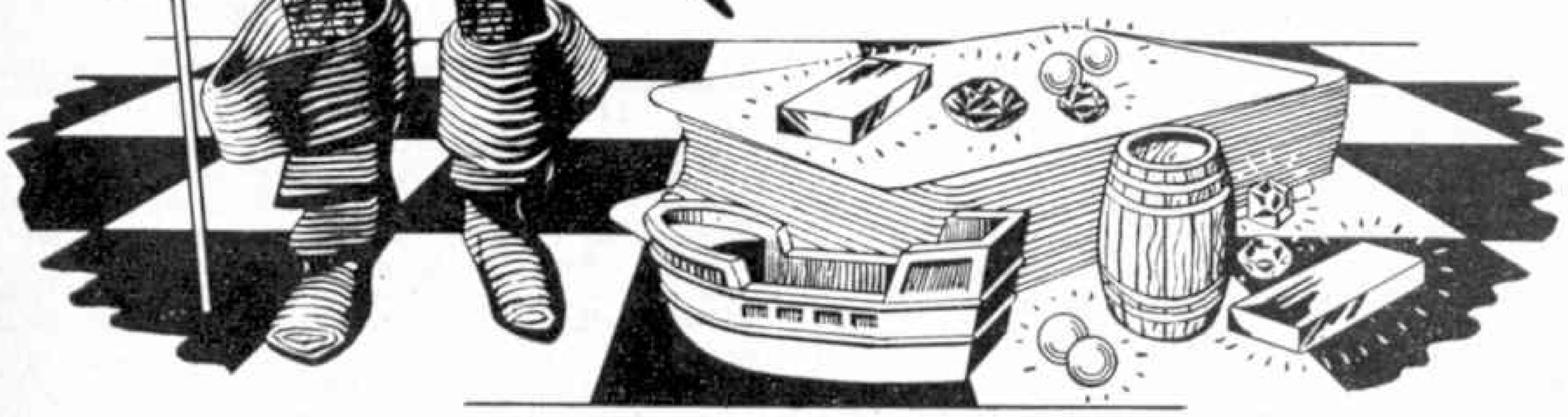

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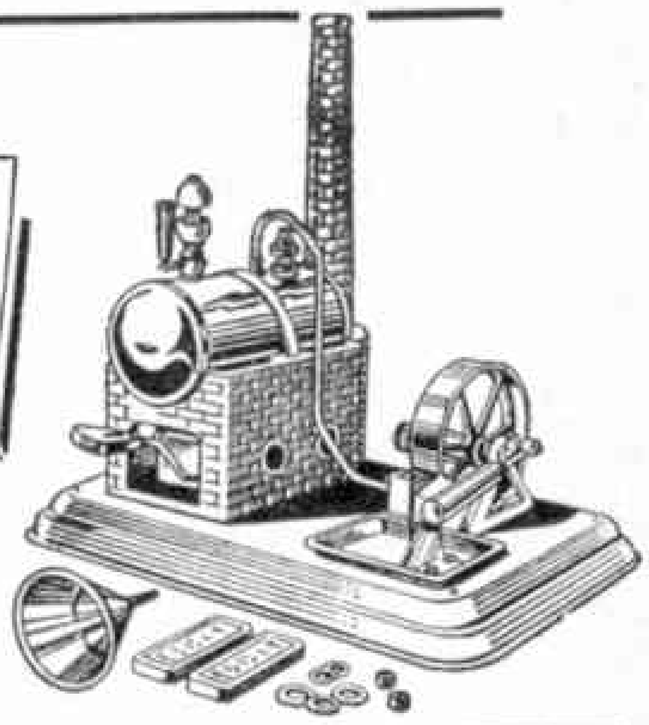

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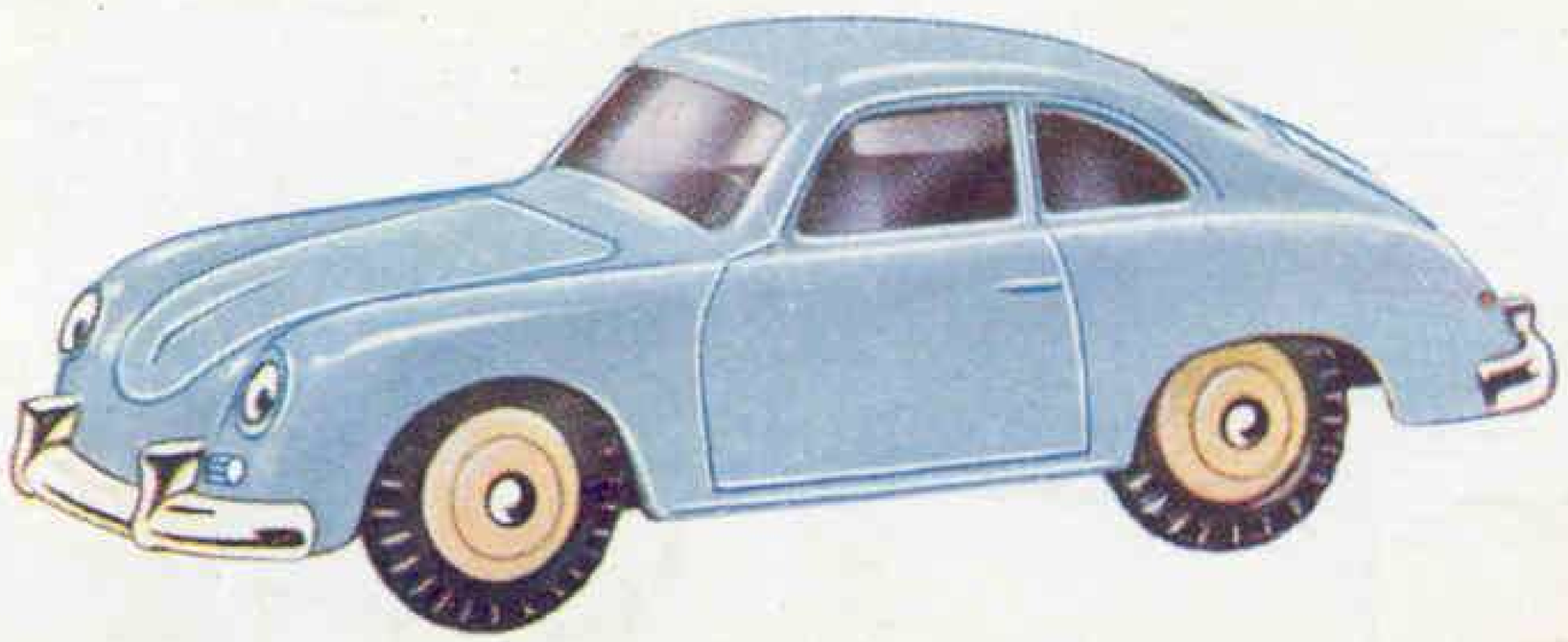

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